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Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH, AND DEVELOPMENT

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WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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BRIEFS

ORDER PLACED FOR U.S. SATELLITE--Tokyo, 18 December KYODO--Space
Communications Corp., a Japanese satellite telecom company in the Mitsubishi
business group, said Wednesday it has placed a formal order for a
communications satellite with Ford Aerospace Communications Corp. of the
United States. A spokesman for the Japanese telecom firm said the satellite,
equipped with a total of 35 transponders, is one of two satellites valued at
60 billion yen, which the telecom firm plans to launch in February and
November in 1988, respectively, to start satellite communication service in
April of that year. Space communications, capitalized at 400 million yen, is
owned 60 percent by Mitsubishi Corp. and the remainder by Mitsubishi Electric
Corp., the spokesman said. [Text] [Tokyo KYODO in English 0310 GMT 18 Dec 85
OW] /12913

GRANTS TO MARSHALL ISLANDS, KENYA--Tokyo, 19 December KYODO--The Japanese
Government has decided to extend a 315 million yen grant to the Republic of
the Marshall Islands and a 47 million yen cultural grant to Kenya, the Foreign
Ministry announced Thursday. The assistance to the Republic of the Marshall
Islands will be used for a radio station improvement project. The grant to
Kenya is for the University of Nairobi to purchase equipment for education and
research, the ministry said. [Text] [Tokyo KYODO in English 1153 GMT 19 Dec
85 OW] /12913

CSO: 5560/066

SHANGHAI ADVANCES IN TELECOMMUNICATIONS SERVICES

OW021310 Shanghai City Service in Mandarin 2300 GMT 1 Dec 85

[By reporter (Li Yi) and correspondent (Gao Yangzi)]

[Text] Shanghai has achieved a relatively rapid development in postal and telecommunication services during the Sixth 5-Year Plan period, with the annual growth rate of postal and telecommunication volume exceeding the annual industrial growth for 6 consecutive years. The volume of postal and telecommunication services in the first 10 months of 1985 topped the total volume of 1980 by 69.3 percent.

Telephones have become more and more popular in the city and suburban areas in recent years. Sixty percent of the applications for installation of telephones are for private use. The total number of telephones has reached 270,000 this year, more than double of that of 1980. The number of long distance telephone lines has increased to over 1,500. All telegrams are sent and received through computerized automatic switchboards.

Progress has also been made in the construction of the postal and telecommunication engineering project, which includes a telecommunications building, three postal centers, and five city telephone [words indistinct]. The construction of the main body of the telecommunications building has already been completed, and the installation of interior equipment will be started soon. The China-Belgium joint construction of a production line capable of producing 300,000 1240-type computerized telephone switchboards was begun last month. The completion and operation of these engineering projects will further enhance Shanghai's postal and telecommunication services.

/12640
CSO: 5500/4139

SHANGHAI OVERFULFILLS POST, COMMUNICATIONS GOALS

OW141534 Beijing XINHUA in English 1458 GMT 14 Jan 86

[Text] Shanghai, 14 Jan (XINHUA)--Shanghai has doubled its post and tele-communications capacity over the past five years, a municipal official reported.

At the end of last year, Shanghai had 270,000 domestic telephone lines and 1,900 long-distance lines--twice the 1980 figures.

The number of subscribers increased from 200,000 to 257,000 in the period, and an international program-controlled exchange system will soon go into operation.

All these overfulfilled the targets for China's Sixth 5-year Plan which has just ended, said a municipal official.

About 80 million yuan is being allocated during the 1980s to improve the city's posts and telecommunications system.

A telecommunications center started in 1983 includes telegraph, telephone, facsimile and digital correspondence services for within China and abroad. It should be completed next year.

An international mail sorting center opened in 1982, and two large sorting centers now being built will quadruple Shanghai's mail-handling capacity.

Advanced technology is being introduced in a number of areas. An automatic transmission system was completed by Shanghai Telegraph Bureau last June.

The city's telegraph-handling capacity is increasing by 40 percent a year thanks to the introduction of program-controlled facilities.

Shanghai has also imported fiber-communications and digital-microwave facilities to improve services.

/9738
CSO: 5500/4141

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GUANGDONG'S CONSTRUCTION OF POSTS AND TELECOMMUNICATIONS

HK211104 Beijing ZHONGGUO XINWEN SHE in Chinese 1335 GMT 17 Jan 86

[Report: "During the Period Covered by the 'Sixth 5-Year Plan,' Guangdong's Construction of Posts and Telecommunications Outstripped That in the Past 30 Years"]

[Text] Guangzhou, 17 January (ZHONGGUO XINWEN SHE)--During the period covered by the "Sixth 5-Year Plan," Guangdong's construction of posts and telecommunications has outstripped that done in the past 30 years.

Over the past 5 years, Guangdong Province has increased over 2,000 long-distance call circuits and a network of microwave circuits, which links all parts of the province with the coastal open cities, that is, the hinterland with the Zhujiang Delta, Hong Kong and Macao, has been built. The Guangzhou-Beijing communications cable formed by 1,800 circuits has been put through. More than 30 counties and cities of Thep Province now have direct-dial telephones to Hong Kong. There are autodial or semiautodial long-distance telephones in 16 towns and cities in the province. After several years of construction, Nanhai County has become the first county which has direct-dial telephones to the United States and some other countries and has automated all its telephones in China. The total number of telephones in Guangdong Province exceeds 200,000 sets. Sixty percent of the townships in the province now have telephones.

According to an official, the present scope of posts and telecommunications' construction in Guangdong Province still cannot meet the growing demands of economic development and the people's life so Guangdong must accelerate its construction of posts and telecommunications in the future 5 years.

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CSO: 5500/4143

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GUANGXI CONFERENCE ON POSTS, TELECOMMUNICATIONS WORK ENDS

HK211138 Nanning Guangxi Regional Service in Mandarin 1100 GMT 18 Jan 86

[Excerpts] The regional conference on posts and telecommunications work concluded in Nanning today.

The conference put forward: during the Seventh 5-Year Plan period, the main aim of the posts and telecommunications development in our region is that by 1990, the total amount of posts and telecommunications work will reach 105 million yuan and the average annual increase will be 8.6 percent. In communications, by 1990, the whole region will have 195,000 telephones with an average annual increase of 10.7 percent. The number of telephone switch-boards in cities will increase by 64,000. [words indistinct] will increase by 10,000. The rate of telephone use for the whole region will reach 0.48 percent. The number of long-distance telephone lines will sharply increase by 1,300 and the average annual increase will be 17 percent. In addition, a main operational building of the Nanning Telecommunications Bureau will be built. The main microwave lines of Nanning-Qinzhou-Beihai and Nanning-Liuzhou-Guilin will be erected. City-controlled telephone switchboards in Guilin, Beihai, Nanning, and Liuzhou will be installed [passage indistinct]. It is planned that the total amount of posts and telecommunications work in the whole region in 1986 will be some 76 million yuan and record an increase of 10.5 percent over 1985. The number of telephones in the city will increase by 1,000. The number of long-distance lines will increase by 150. The sites for posts and telecommunications facilities will be 20,000 square meters.

The conference pointed out: To achieve the above-mentioned goal to greatly improve posts and telecommunications work in our region, and to meet the needs of continuous, steady, and coordinated development of the national economy in our region, and posts and telecommunications depart-ments throughout the region must, in the light of realities, seriously study the documents of the National Conference of Party Delegates and the requirements for posts and telecommunications work which are contained in the suggestions of the central authorities on the Seventh 5-Year Plan. They must continue to implement the spirit of the instructions of the Secretariat of the Central Authorities and State Council on posts and telecommunications work, vigorously and safely carry out reform in posts and telecommunications,

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persist in simultaneously grasping the building of two civilizations, further increase the telecommunication capacity, do well in enterprise management, improve service work, raise economic results, and create a new situation in posts and telecommunications work in our region.

Zhu Gaofeng, vice minister of posts and telecommunications, who came to our region to inspect posts and telecommunications work, attended the conference and spoke. He demanded that the posts and telecommunications departments in our region must further strengthen the management of business and technology, attach importance to the training of qualified personnel, strengthen the building of spiritual civilization, and raise posts and telecommunications work in our region to a new plane.

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CSO: 5500/4143

QINGHAI MEETING DISCUSSES COMMUNICATIONS WORK

HK190257 Xining Qinghai Provincial Service in Mandarin 2330 GMT 18 Jan 86

[Excerpts] A Qinghai provincial communications work conference concluded in Xining on 18 January. This was a comprehensive meeting dealing with communications, transport, posts, and telecommunications.

The meeting demanded that the focus in reform of the communications structure be on separating government and enterprise, streamlining the administration and delegating powers, expanding enterprise decisionmaking powers, invigorating the enterprises, and gradually achieving the goals of providing convenient passenger transport, a free flow of freight traffic, and a complete communications network. It is also necessary to promote high-quality service and correct unhealthy trends in rough and ready freight loading, fairness to customers, random fare hikes, and delays in posts and communications.

Another important task this year is to reduce energy and raw material consumption, give full play to the capabilities of the enterprises themselves, and expand sources of supply through various channels. At present the task of spring festival transport and the transport of materials for fighting natural disasters is very great. We must tap potentials and haul and transport more.

The meeting stressed that improving enterprise management and worker quality must be regarded as a major task this year.

/9738
CSO: 5500/4143

SHANDONG MEETING DISCUSSES POST AND TELECOMMUNICATIONS PLANS

SK270335 Jinan Shandong Provincial Service in Mandarin 2300 GMT 19 Jan 86

[Text] The provincial work conference on post and telecommunications conconded on 19 January. The conference pointed out that, during the implementation period of the Seventh 5-Year Plan, our province should vigorously develop the installing of telephones among the cities and of long-distance telephones in building post and telecommunications facilities, and should score an increase in the capacity of postal transport and postal work stations in order to rapidly strengthen communications capability.

The conference stressed that in order to develop post and telecommunications undertakings, the post and telecommunications departments throughout the province must depend on the policies regarding raising construction funds through various channels at various levels and should bring into full play the enthusiasm of social circles in developing post and telecommunications facilities by adopting various ways and means in order to score a yearly average increase of 10.5 percent in the total volume of post and telecommunications undertakings. It is imperative to introduce foreign advanced communications equipment while upholding the principle of conducting reform, tapping latent power, carrying out technical innovations, and following the road of developing post and telecommunications undertakings by taking self-improvement as a main task. Efforts should be made to enable the original and future communications facilities to be truly transformed to have the capability of comprehensive production. We should accelerate the pace of building post and telecommunications facilities in Jinan City, capital of the province; in the two open cities of Qingdao and Yantai; and among the petroleum and coal production bases. It is imperative to adopt all ways and means to strengthen or improve management and administration and to popularize or adopt modernized managerial methods in order to upgrade the quality of communications service and to ensure a steady increase in the benefits of post and telecommunications undertakings and their social effect. We must uphold the principle of building the two civilizations simultaneously in order to upgrade the quality of staff members and workers engaging in post and telecommunications work; to enable their ranks to be full of ideals, morality, and cultural knowledge, and to be well disciplined; and to ensure an accurate information service for the program of building socialist modernization.

The conference held that 1986 is the first year in which we begin implementation of the Seventh 5-Year Plan, and a year in which we should adopt every way and means to enliven the microeconomy while enhancing macroeconomic control and should educate the staff members and workers to do a good job in fulfilling the following several tasks by displaying the spirit of the foolish old man who removed the mountains and of adopting all ways and means to overcome difficulties:

1. Efforts should be made to accelerate the pace of conducting the capital construction of post and telecommunications facilities and to concentrate on building the key projects and on vigorously winding up operations for the projects that will soon be put into production.

2. A good job should be done in conducting technical innovations, making up for deficiencies, and setting up networks among the facilities in this regard, including chiefly the work of establishing convoys of mail delivery vehicles in Jinan City, building four highways for postal transport in the province, the opening three inter-province postal highways.

3. Efforts should be made to map out reasonable plans and to readjust the structure of communication networks throughout the province. In 1986 we must set up semi-automatic communication lines between Jinan City and various prefectures and cities, and direct telephone lines between Jinan City and more than 90 percent of counties and districts throughout the province. Efforts should be made to open direct telephone lines among prefectures and cities that also must open 12-channel carrier lines with their subordinate countries.

4. Efforts should be made to accelerate the pace of building telephone lines among the farming areas throughout the province and to score a 200-line increase among the farming villages in order to ensure the development of the rural economy.

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CSO: 5500/4143

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BRIEFS

JIANGSU RURAL TELEPHONE SERVICE--Jiangsu's rural telephone service developed rapidly during the Sixth 5-Year Plan. The total capacity of telephone switchboards increased from 151,000 telephones in 1980 to 194,000 in 1985, overfulfilling plan by 28.3 percent. Number of telephones reached 139,500, an increase of 4.6 percent over plan. [Summary] [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 14 Jan 86 OW] /9738

ANHUI SATELLITE STATION--Construction of Anhui's first satellite TV ground receiving station was completed recently in Anqing City. The completion of the ground receiving station will enhance the quality of TV reception and coverage areas in the city. [Summary] [Hefei Anhui Provincial in Mandarin 1100 GMT 18 Jan 86 OW] /9738

SHANGHAI COMMUNICATIONS CAPACITY--Shanghai, 19 Jan (XINHUA)--Shanghai's major communications capacity doubled during the Sixth 5-year Plan. At the end of 1985, the city had 270,000 telephones, more than double that in 1980; and its long-distance telephone lines totaled 1,900, nearly double that in 1980. More than 57,000 households in the city had telephones installed in the past 5 years, and the city has prefulfilled the goal set by the Ministry of Post and Telecommunications that every 1,000 people should have one public telephone. An automatic telegraph relay system has enabled the city to fully automate the relay of telegraph to all parts of the country. [Summary] [Beijing XINHUA Domestic Service in Chinese 0053 GMT 19 Jan 86 OW] /9738

TIANJIN SATELLITE GROUND STATION--A satellite television ground station, the first of its kind in Tianjin Municipality, was built recently in the Tianjin Bohai radio plant. This station can receive television programs transmitted through satellites from the capitals of five countries, such as China, the Soviet Union, the United States, Malaysia, and Australia. This station is of far-reaching significance in expanding the television coverage of our country. [Summary] [Tianjin City Service in Mandarin 0030 GMT 19 Jan 86 SK] /9738

YUNNAN TV RELAY STATION--The Ministry of Astronautics Industry and the Ministry of Electronics Industry have completed construction of a ground satellite station and a television relay station for army men and civilian residents at and near the Lao Shan front in Yunnan. Now army men and

civilian residents in Lao Shan can receive and view Central Television Station programs on the same day. [Text] [Beijing Domestic Service in Mandarin 1200 GMT 25 Jan 86 OW] /9738

SAFEGUARDING COMMUNICATIONS LINES--The Autonomous Regional People's Government recently issued a circular, urging localities throughout the region to adopt effective measures to further do a good job in safeguarding communications lines. The circular points out: Since 1985, construction accidents that destroyed main communications lines and damaged communications facilities have occurred repeatedly, bringing about serious losses to communications work. In order to prevent the recurrence of such accidents, the regional People's Government urges the governments at all levels to earnestly do a good job in implementing the provisions issued by the State Council and the Central Military Commission with regard to safeguarding communications lines. Public security departments at all levels should regard the work of safeguarding communications lines as a major task of consolidating social peace and order and should do a good job in earnestly grasping the work. All cases of destroying communications lines, particularly destroying the [words indistinct] main lines and the underground computer lines, should be well investigated and strictly and rapidly dealt with in line with the law. [Text] [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 1 Feb 86 SK] /9738

NEI MONGGOL COMMUNICATIONS SERVICES--Hohhot, 13 Jan (XINHUA)--Mail and telephone services are now available in many areas of the Inner Mongolia Autonomous Region, according to the INNER MONGOLIA DAILY newspaper. As a result of the regional government's effort, Inner Mongolia now has mail service in almost all villages and has over 1,000 circuits connecting Hohhot with many other cities. Telephone capacity has increased by 47,000 lines, including 239 long distance telephone lines, since 1981. There are now 0.78 telephone sets per 100 city-dwellers, up from 0.57 in 1980 and 0.22 higher than the country's average. According to the paper, the region's total postal and telecommunication traffic volume has gone up steadily since 1983 to 270 million yuan last year, an increase of 95 percent over 1980. [Text] [Beijing XINHUA in English 1034 GMT 13 Jan 86 OW] /9738

SUNSPOT GROUP EFFECTS--Nanjing, 9 Feb (XINHUA)--A support group, described by scientists here as "very large, active with an extraordinary shape", twice caused shortwave communications to stop for a while when it erupted at 15:45 hours of 4 February and 14:23 hours of 6 February. The solar flares resulting from the sunspot activity caused the solar radio intensity to increase anywhere between eight to 23 fold, producing "serious inter- ferences" to the ionized atmosphere, reported the purple mountain astronomical observatory of Nanjing. Still more interferences are expected, as the sun- spot group will have moved to the other side of the sun by 11 February. The phenomenon was something "very rare", said the scientists, as the solar activity is generally considered as most inactive during the 11-year sunspot cycle. [Text] [Beijing XINHUA in English 0856 GMT 9 Feb 86 OW] /9738

INTERNATIONAL DIALING LINKS--Beijing, 11 Feb (XINHUA)--Automatic telephone dialing will be available between seven major Chinese cities and 170 countries and regions by the end of June, according to the Ministry of Posts and Telecommunications. The cities are Beijing, Shanghai, Guangzhou, Fuzhou, Tianjin, Xiamen and Qinhuangdao, a ministry official said. Xiamen is one of China's four special economic zones where foreign investors enjoy preferential treatment. Shanghai, Guangzhou, Fuzhou, Tianjin and Qinhuangdao are among the 14 coastal cities now open to foreign investment and trade. The Ministry will speed up installation of program-controlled telephone exchanges in major cities to expand the international switching capacity. Automatic international dialing will be available in 40 provincial capital cities and coastal cities, including Xian, Wuhan, Hangzhou and Chengdu, by the end of 1987. [Text] [Beijing XINHUA in English 0635 GMT 11 Feb 86 OW] /9738

OPTICAL-FIBER COMMUNICATIONS--Hanzhou, 28 Nov (XINHUA)--China has made progress in developing and using optical-fiber telecommunications. A Chinese-developed optical-fiber telecommunications system has been put into operation in Wuhan and Shijiazhuang for long-distance telecommunications. China's first optical-fiber cable line for press dispatch is in operation in XINHUA News Agency. The cable line is capable of transmitting 60,000 Chinese characters daily, and is making press transmission more accurate and fast. China is producing otpical-fiber cables and related equip- ments in small batches, and it has installed 25 optical-fiber cable lines and related equipment in Beijing, Guilin, and other major cities. [Summary] [Beijing XINHUA Domestic Service in Chinese 0009 GMT 28 Nov 85 OW] /12640

FUJIAN TELECOMMUNICATIONS--Since 1980, Fujian Province has improved its telecommunications with the addition of new equipment and facilities. The addition includes two 10,000-unit program-controlled telephone exchanges, one in Fuzhou and the other in Xiamen; and two microwave telecommunications lines, one from Fuzhou to Xiamen and the other from Fuzhou to Zhangzhou. Of the Fuzhou-Hangzhou and the Xiamen-Shantou long distance tele- communications cables under construction, the portions in Fujian Province have been completed. During the Sixth 5-Year Plan, the province has increased its automatic telephone exchanges by 36,560 units. [Summary] [Fuzhou Fujian Provincial Service in Mandarin 1130 GMT 2 Dec 85 OW] /12640

NEI MONGGOL COAXIAL CABLE--Installation of the 300-channel coaxial cable carrier between Bejing and Hohhot, Nei Monggol Region, was completed recently. Being a key project of the Ministry of Posts and Communications, some 19.15 million yuan in investment was made in the Nei Monggol section of this carrier. The opening of this carrier will add long-distance circuits between Beijing and Hohhot and between different areas along the carrier, and will create conditions for basically easing strains on the long-distance wire circuits from north to northwest China and for realizing direct dialing between Beijing and Hohhot as well as other cities along the carrier. [Summary] [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Dec 85 SK] /12640

GANSU DEVELOPS BROADCASTING WORK--Over the past 2 years, Gansu has seriously implemented the central authorities' principle of running broadcasting and television and extending coverage by ourselves. Gansu has done well in building broadcasting and television stations. Last year, leaders concerned and technicians of the Provincial Broadcasting and Television Department went to the countryside on many occasions to go deep into realities and to give on-the-spot guidance. They helped prefectures, cities, and countries solve relevant technological problems, speeded up the building of a large number of new broadcasting and television stations, improved the technology, equipment, quality of publicity, and the rate of listening to broadcasting and watching of and television stations at the prefectural and county levels in our province. Over the past 2 years, Gansu has built five people's broadcasting stations in Lanzhou, Pingliang, Yumen, Anxi, and Jingyuan and two television stations in Lanzhou and Pingliang. The total number of broadcasting and television stations which have been built or are being built has now reached 20. [Text] [Lanzhou Gansu Provincial Service in Mandarin 1100 GMT 10 Jan 86] /12640

SHIPS RETURN AFTER LAUNCH--Shanghai, 11 Feb (XINHUA)--Three Chinese surveying ships taking part in launching the telecommunications and broadcasting satellite returned to base at the mouth of the Yangtze River Monday after completing their task in the Pacific. The fleet left base on 8 January and was in the Pacific for 32 days. Following the launching of the satellite at 20:36 hours on 1 February, scientists switched on all the instruments on the ships to track the satellite and sent back the data to the measuring and control center. [Text] [Beijing XINHUA in English 0633 GMT 11 Feb 86 OW] /9738

CSO: 5500/4141

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STUDY OF PAXSAT B ARMS VERIFICATION SATELLITE UNDERWAY

Ottawa THE WEEKEND CITIZEN in English 25 Jan 86 p A12

[Text]

The External Affairs Department has contracted a $440,000 investigation of a new kind of arms verification satellite which could be used to help monitor future weapons agreements.

The 10-month study, revealed in a routine government list of scientific research and development contracts, is being done by Spar Aerospace of Ste.-Anne-de-Bellevue near Montreal.

Although the project is only in the most preliminary stages, the device, dubbed Paxsat B, is a space-to-ground satellite surveillance unit that would provide an international eye in the sky for arms verification.

In theory, Paxsat B would complement an earlier Spar project, Paxsat A, a mobile satellite that would analyse the military capabilities of satellites. An unidentified object detected by Paxsat A would be approached, its configuration analysed and the information beamed back to earth for study by experts.

The United States and the Soviet Union have advanced satellites that peer down from space at ground-based military installations, but Paxsat is different. The satellites would be used in the context of a multilateral weapons agreement, probably in tandem with on-site inspections, arms checkpoints and other conventional methods of verifying compliance with international agreements.

The concept of an international peacekeeping satellite was first proposed after former prime minister Pierre Trudeau suggested in 1982 the United Nations treaty on space militarization had loopholes. In 1983, President Ronald Reagan announced the United States would begin studies of a space-based defence system.

Ron Cleminson, chief of the arms verification unit at External Affairs, said the information from the feasibility study will be passed to Canadian representatives at international arms-control conferences.

It is seen by some as a counterbalance to superpower arguments that arms-control agreements can not be verified, Cleminson said.

Cleminson admits that Paxsat would be operative "in a different world than we have at the moment," one in which many nations had already agreed to limit space or nuclear weapons. But he says such devices could form an important element of the verification process that would accompany such treaties.

The department has asked Spar to investigate whether off-the-shelf technology can be used for Paxsat and to determine how the system would be used in relation to existing methods of arms-control verification.

John Barrett, research associate at the Centre for Arms Control and Disarmament, described Paxsat as "assistance to verification" for treaties. But he cautioned superpower co-operation would likely be needed to make the system effective.

/9274
CSO: 5520/06

NORTEL SELLS DIGITAL SWITCHING SYSTEMS TO CARIBBEAN NATIONS

Toronto THE TORONTO STAR in English 21 Jan 86 p D7

[Text]

Northern Telecom Ltd., the world's leading supplier of fully digital telecommunications systems, has entered into an agreement with Cable Wireless (West Indies) Ltd. for the supply of DMS digital switching systems for a number of Caribbean countries.

Northern Telecom, based in Mississauga, says it has signed three contracts with Cable and Wireless worth $11 million for the installation of the switches in Dominica, Anguilla and the British Virgin Islands.

The systems will ultimately serve 20,000 lines, Northern Telecom says. The will offer a centralized switch in each country and provide direct international dialing and other subscriber features.

Similar switching systems and transmission equipment have been sold to other Caribbean countries, including Barbados, Antigua, Bahamas, Bermuda, St. Kitts and Nevis, Jamaica, Grenanda, and Trinidad and Tobago, Northern Telecom says.

/9274
CSO: 5520/66

BELL CANADA TO TEST FOUR NEW CALL MANAGEMENT SERVICES

Toronto THE GLOBE AND MAIL in English 17 Jan 86 p B9

[Article by Lawrence Surtees]

[Text]

Victims of obscene telephone calls will be able to instantly trace the caller's number thanks to new technologies to be tested in a Bell Canada market trial.

Bell officials announced yesterday that 1,000 Peterborough residents will participate in a seven-month test of four new services designed to manage telephone calls, including the tracing service for annoyance calls. The first phase of the trial begins in March and involves exchanges in which the telephone numbers begin with 742 and 745.

Peterborough has been selected by Bell many times before as the site for consumer testing, helping to give this city its reputation as the market trial capital of Canada.

However, Bell said it is simply a coincidence, and the major reason for selecting Peterborough is that the company has converted more than 50 per cent of telephone subscribers there to digital technology, said Alan Walter, Bell vice-president of marketing and development.

Bell is now using computerized digital switches to route subscriber telephone calls. Each of the four new services use the memory and software built into the switches that Bell is using to make its network. Powerful electronic microchips that are built into new telephone sets can bring this computer power into the home or office.

To receive the services, either during the trial or in the future, subscribers must be hooked up to a digital switch and have a touchtone telephone line. They also need to have a more sophisticated telephone set with a readout display panel and special buttons to activate the new services. Bell will provide all of these free of charge to trial participants during the first phase.

The company plans to offer the services by 1988 to the more than six million subscribers it serves throughout Ontario, Quebec and the

Northwest Territories, Mr. Walter said. By then, most telephone lines will be hooked up to the computerized switches, and the special telephone sets, which are already being made by Northern Telecom Ltd. of Mississauga, Ont., will be available at affordable prices.

All four of the services to be tested will be marketed under the broad name of call-management services. They are:

☐ Calling line information display. This shows the telephone number of the incoming call on a calculator-like display panel on the special telephone set. Customers will thus be able to find out who's calling before deciding to answer. The city in which long-distance calls originate will be identified, rather than the entire number.

☐ Activated call identification. In the event of an obscene, harassing or life-threatening call, an instant trace can be obtained and Bell Canada staff alerted.

☐ Automatic call setup. This lets phone users know when a busy line is free by automatically giving a special ring as soon as the line is available. When the receiver is picked up, the previously busy number is automatically dialed.

☐ Extended call forwarding. This will allow greater flexibility to forward calls to another number at a different location. Subscribers will now be able to change the number by calling a Bell message service operator instead of having to go home.

Incoming calls can only be identified if they also originate on a touch-tone line that is connected to a digital switch. However, Bell believes the ability to trace and identify obscene callers will be a significant deterrent, Mr. Walter said.

If a person makes an obscene or annoying call from a detectable number, the caller will not know whether the victim has activated the special trace feature. In addition to the read-out available with the display feature, activation of the trace causes details of the call to be printed out in a Bell location.

The Bell attendant gets both numbers and will call the victim with advice. Usually, Bell will advise the victim to call the police on a second occurrence of a harassing, but non-life threatening call. Legally, Bell can only disclose private numbers to the police if a warrant is obtained, but an individual using the service can obtain the number instantly and alert the police, enabling them to locate and apprehend the offender.

Bell is still waiting for the Canadian Radio-Television and Telecommunications Commission to approve the trial. Although the second phase — expected to begin in November — will be a commercial one, Bell does not yet know how much subscribers will have to pay for the services.

Mr. Walter said packages will be offered and all four services would "probably cost about $10 a month." The rates will also require CRTC approval.

"Essentially, subscribers to these services will be renting computer memory from Bell," Mr. Walter said. "A quiet revolution has occurred that could significantly change the way we use the telephone. . . . With the computing power of today's digital telephone exchanges, the entire network can be customized for each user."

CELLULAR TELEPHONE SERVICE LAUNCHED IN VANCOUVER

Toronto THE TORONTO STAR in English 15 Jan 86 p C7

[Text]

Vancouver is the the ninth Canadian city to go cellular in its telephone service with the official inauguration of the new system by Cantel Inc., the national cellular service provider.

Subscribers will have their cellular car and portable telephones activated and will enjoy free local service until the commercial start Feb. 1, Toronto-based Cantel says.

Cellular telephone service is a new form of radio telephone communication that makes affordable, high-quality mobile and portable telephone service available to a greater number of subscribers, the company says.

"Vancouver is a very important link in Cantel's national cellular network," George Fierheller, president and chief executive officer of Cantel, says in a news release.

Cellular service was launched in Montreal, Toronto, Hamilton and Oshawa on July 1, and more than 10,000 people have since subscribed in Canada, Cantel says. There are more than 500,000 cellular subscribers worldwide, with 200,000 in the United States alone.

The Canadian service has been extended to the cities of Ottawa, Quebec City, London, Kitchener and now Vancouver.

/9274
CSO: 5520/66

FINANCING ARRANGED FOR TELECOMMUNICATIONS SALE TO TURKEY

Toronto THE TORONTO STAR in English 22 Jan 86 p 17

[Text]

A consortium of banks and the federal Export Development Corp. have concluded a financing arrangement for the sale of telecommunications equipment to Turkey.

The export sale is expected to generate the equivalent of 6,000 jobs for one year in Canada.

The consortium, led by the Toronto Dominion Bank, will participate in a $204 million loan to Turkey, by providing a $22.5 million financing. The agency, which announced the loan in September, says participation agreements will permit Canadian exporters and foreign buyers or borrowers to support transactions involving Canadian equipment and services.

The sale involves the supply of digital switching equipment, telephone sets and related technical services by Northern Telecom International Ltd. of Mississauga.

/9274
CSO: 5520/66

STUDY COMPLETED FOR BUILDING WIND IMAGING INTERFEROMETER

Toronto THE GLOBE AND MAIL in English 24 Jan 86 p B12

[Article by Agnes Kruchio]

[Text]

The federal Government completed work yesterday on a contract with a partnership of two Ottawa space companies for an instrument that will give Canadian space scientists a role in the largest upper-atmospheric research satellite of the decade.

At the end of January, the National Research Council of Canada and the Department of Supply and Services will sign the $12.7-million pact with Advanced Information Technologies Corp., the prime contractor, and Canadian Astronautics Ltd. to build the the hardware for Windii (wind imaging interferometer), to be launched in 1989 on board the U.S. National Aeronautics and Space Administration's Upper Atmosphere Research Satellite.

Windii is a Canadian-designed instrument to measure winds and temperatures. The French Government and some scientists will be junior partners in the experiment for NASA.

The technology was already in place, in the form of a device being built in Saskatoon for shuttle flights in the late 1980s.

During the five-year project, the spending for Windii could represent as much as a third of Canada's outlay on space, said Roy Van Koughnett, associate director of NRC's Centre for Space Science.

"I think it is the best opportunity that's come along for us in space science," he said, because NASA's Upper Atmosphere Research Satellite is the program of the decade in this field of research.

"It gives us full partnership in the program and access to the information from the other 10 instruments on board," Mr. Van Koughnett said.

A feasibility study and advanced study phase for Windii have been completed. Construction should generate about 15 high-technology jobs, industry sources said.

The UARS program aims to study thoroughly the composition and dynamics of the Earth's upper atmosphere, over 1½ to three years. Dr. William Gault, a senior scientist, said the instrument is a novel development based on work by Prof. Gordon Shepherd and coworkers both at the University of Saskatchewan in Saskatoon and Toronto's York University. The device measures wind and temperature as a function of height, time, season, latitude and longitude.

"It's like getting a 3-D image of the atmosphere, which has never been done on a vast scale like this before," he said. Although extensive measurements have been made at low altitudes, work becomes difficult above 30 to 40 kilometres. Up to now, it has been done either directly from rockets or indirectly, using the light emitted by atoms and molecules — a phenomenon called "airglow."

Windii is designed to look obliquely at the atmosphere from a 600 km orbit. The device will detect the motion of gases between 80 and 300 km up by taking a sequence of quick shots through an interferometer.

The interferometer, which has 80,000 detectors per square centi-

metre, electronically images the light emitted by atoms and molecules. Using the principle of the Doppler shift to detect air motion, Windii will get a picture of the winds and their temperatures.

New knowledge about the upper atmosphere should permit a better understanding of its dynamics and chemistry, Dr. Gault said. (U.S. investigators also hope to discover the effects of long-term pollutants.)

The ground segment of the system uses Canadian-built computer systems. Data processing is being developed in France under Canadian supervision, said Timothy Eastland, NRC's interim project manager for Windii.

The Canadian team comprises scientists from NRC, the Department of the Environment's Atmospheric Environment Service, York University, and the universities of Saskatchewan, Calgary and Western Ontario. It will be co-ordinated by Prof. Shepherd at York.

When the instrument is aloft, Windii will be directed from a computer at York, which will act as a mini-mission control site for the instrument.

SYMPOSIUM ON ADVANCES IN DIGITAL RADIO LINK HARDWARE

Warsaw PRZEGLAD TELEKOMUNIKACYJNY in Polish No 7, Jul 85 pp 192-194

[Article by Henryk Kaska of Telcom State Teletransmission Plants: "Digital Radio Link Equipment"]

[Text] The scientific-technical exhibits, associated thematically with PZT [State Teletransmission Plants] development work, that have been organized since 1978 by the SEP [Association of Polish Electrical Engineers] Plant Circle have become a tradition. The theme of the fifth scientific-technical symposium that was held on 25 October 1984 was a new area of PZT interest, namely, digital radio link equipment [DRLE]. This symposium was one of the ways SEP members participated actively in the plant program to celebrate the 40th anniversary of the Polish People's Republic.

According to the assumptions of the multiyear plan, the PZT is scheduled to begin serial production of DRLE in the 1980s, which will permit wireless communications. This project should also facilitate the accelerated development of telecommunications in Poland. The currently developed DRLE will be used in telecommunications networks to meet the needs of time-shared multiplex telephony having nominal digital streams of 2.048 Mb/s, 2x2.048 Mb/s, 8.448 Mb/s, 2x8.448 Mb/s and 34.368 Mb/s in the following frequency bands: 1.9-2.1 GHz, 10.7-11.7 GHz and 12.75-13.25 GHz.

DRLE will permit the realization of:

--telephone exchange switches for use between local telephone exchanges within the same dialing area;

--direct switches for use between local and long-distance telephone exchanges;

--long-distance switches for use in areas where it would be difficult to use wire lines (mountainous areas, mining districts, water barriers and the like);

--increasing immediately the capacities of existing lines more quickly;

--digital telecommunications systems components, for example, equipment to connect concentrators built within telephone exchanges.

DRLE will also be applied in separate user networks outside the communications ministry, for example, in the power industry, the railway system and special services.

Digital transmission systems should be implemented quickly for technical reasons, based on the development of electronic communications, as well as for economic reasons. The existing cable network does not have sufficient reserve capacity to transmit digital signals to a greater extent. The creation of new communication facilities to transmit digital signals exclusively appears to be justified. As indicated by the experiences of other countries, this problem can be resolved only by using digital radio links. Using digital radio links, an independent digital network can be built that is parallel to the existing network. It also would stimulate the development of electronic communications and assre high-quality transmission. Foreign experiences indicate that it is possible to build high density radio link networks and to integrate them effectively in the existing cable network.

The goal of the DRLE producer and designers is to develop DRLE that is operationally and technically equal to similar equipment offered by West Germany's Siemens, France's Thomson and Japan's NEC. The DRLE will use CCIR radio frequency bands and be compatible with CCITT standard transmission rates.

In developing DRLE, cooperation in the area of development work, consultation and research will be necessary among the following Polish enterprises and scientific research institutions: Warsaw Polytechnic, Gdansk Polytechnic and Wroclaw Polytechnic institutes; the Communications Institute; ITR [Institute of Telecommunications]; ITE-CEMI; GUR; ZMM; Polfer and Radwar. Proof that this cooperation already exists are the papers presented at the symposium by representatives of Gdansk Polytechnic Institute of Telecommunications, Warsaw Polytechnic Institute of Telecommunication, Wroclaw Polytechnic ITE, Communications Institute and PZT, and the participation in the symposium of many specialists from numerous scientific-research units, industry, mining, design bureaus and the like. The extensive participation in the symposium of many telecommunications specialists is proof of the great interest in DRLE.

The symposium was opened by the chairman of the organizing committee, Magister Engineer Edward Gluszczak, PZT deputy director for development. He introduced the DRLE problems to the participants, and he provided background information on the RB-2.1 ministerial-branch task "Digital Radio LInk Equipment." The goal of this task is to initiate within PZT-Telcom the production of a new family of radio links to transmit digital signals.

During the discussion, which was chaired by Prof Marian Zientalski, the following papers were presented:

"Polish Development of Digital Radio Links," by Prof Dr Eng Marian Zientalski (Gdansk Polytechnic).

The author described the basic characteristics of digital radio link systems and their applications in Poland's telecommunications network. He then presented DRLE developed at the Gdansk Polytechnic Institute of

Telecommunication during 1971-1977 within the framework of pivitol problems 06.5.1 and 06.2. Within the framework of this work, working models were developed for the Korab 18 DRLE, which operates in the 2 GHZ band and is designed for operation with Poland's TCK-24 and PCM-30/32 multiplex telephony digital teletransmission systems, and working models were developed of equipment having a capacity of 2x30/32 digital telephone channels that are designed to operate with the E-10 electronic telephone exchange. But the serial production of this equipment was not initiated because a producer was lacking. Nevertheless, the work accomplished in the 1970's formed the basis for the work now going on and showed that it is possible to initiated DRLE production in Poland.

"Characteristics of the Latest Foreign DRLE Designs," by Magister Eng Andrzej Aniolowski (Telcom-PZT).

The characteristics of the latest DRLE operating in frequency bands and having digital streams similar to those required for Polish DRLE were presented in the paper. The most important configurations and their most interesting designs with regard to employed components were described for DRLE manufactured by Thomson, CSF, Standard Elektronik Lorenz AG, Siemens, Nokia Electronics, NTT and NEC.

"Prospects for Applying Digital Radio Links in Poland's Telecommunications Network up to 1995," Dr Eng Lucjan Geborys (Communications Institute).

The author analyzed the current status of DRLE and the need for DRLE in the very near future vis-a-vis the program to develop telecommunications during the 1986-1990 period. The analysis showed that digitizing Poland's teletransmission network is desirable. To date, digitization has been applied to the lowest level networks, primarily switching between telepnone exchanges in large urban areas, and this is where it should be expanded first of all. Voivodship networks should be the main area of applications for digital radio links, for which the 11 GHz frequency band would be the most suitable.

"Preparing the Production of DRLE by the PZT," by Magister Eng Piotr Bledzinski (Telcom-PZT).

The author described the characteristics of DRLE that will be designed and produced by the PZT. He described specific systems and their proposed designs. He also discussed a number of technical and organizational problems facing PZT regarding the initiation of DRLE production (mastering modern techniques in digital pulse-code modulation systems and microwave equipment by the engineering-technician cadres and then by the production workers; obtaining and training a cadre of designers and technicians in the new PZT specialties; implementing and mastering new technological processes; obtaining specialized measuring equipment and technical equipment for the PZT; obtaining materials and tools that are presently being embargoed; and the like).

"Technology of Waveguides Used In Modern Radio Link Equipment," by Dr Eng Zbigniew Szczepanski of Warsaw Polytechnic.

The new microwave integrated circuit technologies used to produce waveguides were reviewed. The technology for producing unsymetrical strip lines, which are now very popular, based on thin-film, thick-film and mixed processes, was described in detail. The technology for mounting discrete components on microwave structures was also described.

"Microwave Generators for Modern Radio Link Equipment," by Magister Eng Jaroslaw Twarog (Warsaw Polytechnic).

A short review of trends in designing and building microwave generators for radio link equipment was presented. Two problems were emphasized: selecting an oscillator type and the consequences of this selection with respect to the entire radio link transceiver system. The degrees of choice that exist within the framework of modern construction trends were emphasized. The achieved solutions indicate that using semiconductor devices that are more available complicates a system significantly. However, using technologically advanced components and designs simplifies construction and thus increases reliability.

The complete texts of the papers presented at the symposium are printed in BIULETYN INFORMACYJNY TELEELEKTRONIKA No 5/1984 (Telcom Publishing House).

Magister Eng B. Grejcz (Ministry of Communications), Magister Engineer Mieszczanek (Communications Institute), Doc Dr Hab B. Galwas (Warsaw Polytechnic), Magister Engineer J. Tworog (Warsaw Polytechnic), Prof Dr Eng M. Zientalski (Gdansk Polytechnic), Magister Eng E. Gluszczak (PZT) and Prof Eng J. Grabowski (Warsaw Polytechnic) participated in the discussion. Among other problems they discussed:

--the possibility of PZT participating in work on the uniform digital radio link system to be developed withing the CEMA framework;

--the degree of DRLE reliability and modernity considering the expected difficulties in obtaining material supplies and technological difficulties expected by the PZT and future partners;

--the limited possibility of using the 2 GHz frequency band, and thus the need to use primarily the 12.13 GHz band and even higher frequencies in the future;

--the maximum use of Polish produced components;

--the need to produce complete DRLE systems, that is, switches with multiplexers, which was considered in the PZT program for development work and future production;

--the possibility of exporting DRLE in the future.

Despite the many doubts that still exist, most of the discussion participants were optimistic; they emphasized PZT's achievements to date in initiating and realizing difficult and ambitious work in new technology. The hope is expressed that production of modern DRLE will be initiated successfully, which will at the same time lend itself to realizing the program to accelerate the

development of telecommunications. A penetrating analysis of the views expressed during the discussion truly favors additional work on developing DRLE.

The organizers favor similar scientific-technical exhibits in future years at which progress in development work in the area of digital telecommunications systems will be presented. The next symposium is scheduled for 25 October 1985 at the PZT. The organizers herein are inviting the active participation of all interested specialists in this next symposium. Within the framework of the symposium, the participants were able to visit the new PZT production room and printed circuit department.

11899
CSO:5500/3004

PROCEDURE FOR BROADCAST COMMISSION APPOINTMENTS DETAILED

Kingston THE DAILY GLEANER in English 14 Jan 86 p 8

/Text/ THE establishment of a Broadcasting Commission is being achieved by amendment of the Broadcasting and Radio Rediffusion (Amendment) Act which is now before Parliament. The schedule to the Act setting the procedures for appointment and meetings of the Commission is reproduced hereunder:

1. (1) The Commission shall consist of three members appointed by the Governor-General by instrument in writing after consultation with the Prime Minister and the Leader of the Opposition.

(2) The Governor-General after consultation with the Prime Minister and the Leader of the Opposition, shall appoint one of the members of the Commission to be Chairman of the Commission.

(3) No person shall be qualified to be a member of the Commission if he —

(a) is a Member of Parliament or a member of any local authority;

(b) has been a Member of Parliament or of any local authority (or has been a candidate for election as a Member of Parliament or of any local authority) during a period of seven years immediately prior to the date of his proposed appointment to the Commission.

(2) (1) The appointment of a member of the Commission shall, subject to the provisions of this Schedule, be for a period of five years.

(2) The members of the Commis-

sion shall be eligible for re-appointment.

(3) A member of the Commission may be removed from office only for inability to discharge the functions of his office (whether arising from infirmity of body or mind or any other cause) or for misbehaviour, and shall not be so removed except in accordance with sub-paragraph (4).

(4) A member of the Commission shall be removed from office —

(a) by the Governor-General;

(b) on the ground specified at sub-paragraph (3),

if the revocation of his appointment is recommended by Parliament by means of a resolution of each House of Parliament, approved by not less than two-thirds of all the members of that House.

5. If the office of a member of the Commission becomes vacant any other person who is qualified to be a member of the Commission may be appointed to be a member in accordance with the provisions of paragraph 1, and the duration of the term of office of such member shall be the unexpired period of the term of office of the member whose office became vacant.

(3) (1) Any member, other than the Chairman, may at any time resign his office by instrument in writing addressed to the Governor-General and transmitted through the Chairman, and from the date of receipt by the Governor-General of such member shall cease to be a member.

(2) The Chairman may at any time resign his office by instrument in

writing addressed to the Governor-General; and such resignation shall take effect as from the date of receipt by the Governor-General of the instrument.

4. The names of all members as first appointed and every change in the membership of the Commission shall be published in the Gazette.

5. (1) The Commission shall meet as and when necessary for the performance of its functions under this Act and such meetings may be held at such places and times and on such days as the Commission may determine.

5. (2) The Chairman may at any time call a special meeting of the Commission and shall call a special meeting within seven days of the receipt of a written request for that purpose addressed to him by any two members of the Commission.

5. (3) The Chairman shall preside at all meetings of the Commission at which he is present, and, in the case of his absence from any meeting, the members present and constituting a quorum shall elect one of their number to act as Chairman at the meeting.

(4) The quorum at any meeting shall be two.

(5) Every decision of the Commission shall be by a majority vote and where the voting is equal the Chairman or person presiding shall have a casting vote in addition to his original vote.

(6) Subject to the provisions of this paragraph the Commission shall have power to regulate its own proceedings.

(7) The validity of any proceedings of the Commission shall not be affected by any vacancy amongst the members or by any defect in the appointment of a member.

6. No action, suit, prosecution or other proceedings shall be brought or instituted personally against any member of the Commission in respect of any act done bona fide in pursuance or execution or intended execution of the Commission's functions under this or any other enactment.

7. The members of the Commission shall receive such emoluments and be subject to such terms and conditions of service as may from time to time be prescribed by or under any law or by resolution of the House of Representatives.

8. (1) The seal of the Commission shall be authenticated by the signatures of the Chairman and another member authorized to act in that behalf.

(2) All documents, other than those required by law to be under seal, made by, and all decisions of, the Commission may be signified under the hand of the Chairman or any other member authorized to act in that behalf.

9. Where, pursuant to paragraph 1, the Governor-General is directed to act after consultation with the Leader of the Opposition and —

(a) there is no person holding the office of Leader of the Opposition; or

(b) the holder of that office is unwilling or, by reason of his illness or absence from Jamaica, unable to perform his functions in that regard,

the Governor-General shall act as if the reference in that paragraph to the Leader of the Opposition were a reference to such person as the Governor-General, in his discretion, considers appropriate."

/12851
CSO: 5540/037

BRIEFS

ELECTRONIC EXCHANGE MANUFACTURE--Electronic Private automatic branch exchanges (EPABX) incorporating the latest technology will be manufactured by Larsen and Toubro Limited in collaboration with Jeumont Schneider of France. The state of the art technology in these EPABX includes time division multiplex-pulse code modulation (TDM-PCM) and pulse amplitude modulation (TDM-PAM). These modulation techniques enable the system to support a very high calling rate and provide high quality of speech. EPABX has a wide market ranging from small establishments to large industries and hotels. The equipment, to be manufactured at L & T's Mysore works, incorporates modern features like re-strictive direct access to trunk lines, call hold and transfer, consultation hold, automatic call-back on busy or free extension, three-way conferencing and third party override. These features are available to users even with existing rotary dial telephones. Additional facilities offered in the case of push button telephones include abbreviated dialling, memory and last number re-dial. In L & T's EPABX, the connections are established by digital switching, making use of highly integrated memory circuits instead of conventional mechan-ical or electronic analogue switches. This ensures much larger traffic capacity. Diagnostic capability up to card level is built into the equipment. These exchanges also have facilities for data transmission and for inter-action with computers. [Text] [Madras THE HINDU in English 2 Jan 86 p 17] /9274

MOBILE PHONES LAUNCHED--New Delhi, 3 Dec. The Indian telecommunication system crossed another landmark today when the country's first radio mobile telephone and radio paging services were commissioned here. Inaugurating the services, the Communications Minister, Mr. Ram Niwas Mirdha, said Delhi Telephones would enter the digital era next year with the commissioning of digital electronic exchanges of 10,000 lines at Rajauri Garden, Shakti Nagar and Okhla. One-way communication: radio paging provides a one-way communication to the subscriber by giving him an alert signal either in the form of a tone or vibrations when he is carrying with him a pocket-sized radio receiver "pager". After receiving the signal, the sbuscriber will have to contact a predetermined number to get the message from the caller. The facility will be available within a radius of 20 km from Connaught Place and is expected to be useful for doctors, busi-nessmen and others, who are normally on the move. A rent of Rs. 300 a month is to be charged along with a security deposit of Rs. 4,000 for the service. Radio mobile telephone provides a normal telephone service in a vehicle. A rent of Rs. 2,000 a month is to be charged along with a security deposit of Rs. 40,000. [Text] [Madras THE HINDU in English 1 Jan 86 p 1] /9274

CSO: 5650/0075

BRIEFS

SATELLITE LINK REPORTED--Bandar Anzali, Gilan Province, 14 January IRNA--
satellite link will be used to establish contacts between coastal areas and
ships as well as to determine buoys in open waters, according to an official
of the ports and shipping organization Monday. The official said that local
experts using advanced technical equipment will [words indistinct]
collaboration. On the training of shipping personnel, he said that Iran has
advanced training facilities and is self-sufficient in training the required
personnel such as steermen, sailors, commanders, deck officers and
technicians. Further the official said that Iraq in its imposed war on the
Islamic Republic, breached shipping security many times in the Persian Gulf,
in violation of all international rules and regulations. Besides attacking
commercial ships in international waters, the Ba'athist regime also destroyed
several navigation sign posts and buoys, he added. The Islamic Republic, he
said, has dispatched representatives since the last two years to international
navigation organizations to cite various cases of breach of shipping laws by
the Iraqi regime and also to present Iran's viewpoints to further improve the
security of commercial ships. [Text] [Tehran IRNA in English 0928 GMT 14 Jan
86 LD] /12913

IRANIAN SATELLITE COMMUNICATIONS--Tehran, 29 January (IRNA)--A satellite
ground station belonging to the Islamic Republic of Iran Broadcasting (IRIB)
will start operation on January 31st enabling IRIB to substitute satellite
facilities for its current microwave system. An IRIB official said that as
many as 500 such stations out of 3,000 needed for providing the entire country
with satellite facilities, have already been erected in different locations
especially blind spots of the country. The operations for setting up the
remaining 2,500 stations will start as soon as the necessary budget is
provided. Had the IRIB opted to expand its microwave system in preference to
the projected satellite facilities, it would have to expend as much as 12
billion rials (about 130 million dollars) in capital investment over a period
of 20 to 25 years, the official concluded. [Text] [Tehran IRNA in English
1826 GMT 29 Jan 86 LD] /12913

CSO: 5500/4719

ARABSAT GROUND STATION OPENS IN TUNISIA

LD102319 Kuwait KUNA in Arabic 1753 GMT 8 Jan 86

[Text] The ground support station to control the Arab Satellite Arabsat was inaugurated today in Dkhila, North of Tunis, in the presence of Brahim Khouadja, Tunisian minister of communications; 'Alawi Darwish Kayyal, Saudi minister of post, telephones and telegraph; Mr Chedli Klibi, secretary general of the Arab league; Majran Ahmad al-Hamad, Kuwaiti envoy to Tunisian and dean of the Arab and foreign diplomatic corps; and Mr Abbas Fa'iq - Ghazzawi, the Saudi ambassador.

The station is located in an area of 70,000 square meters. It contains monitoring equipment and two dishes, each directed to one of the two to Arab satellites now in orbit. It also contains a room equipped with computers that control the equipment in the station as well as the two satellites.

This station can control four satellites at the same time. It functions as a support station for the main station located near Riyadh, Saudi Arabia. A special network of direct communications exists between the two stations. This network carries information about the movements and orbit of the two satellites, and it has two direct lines through which it is possible to communicate between the two stations.

Mr Klibi said in a statement to journalists: "The success of the Arab states in realizing the Arabsat project means that they have met the challenge of advanced technology which is regarded as the future of world civilization and a criteria for the advancement of nations and their control over their own destinies. Now that Arab engineers and technicians have had the honor of laying the foundation for this project, thus showing their ability to quickly absorb advanced technology, there is an equally important national role awaiting their colleagues, newsmen, and men of education to prepare the information, cultural and scientific programs that will contribute to the awakening of future generations to the useful aspects of the new civilization, while preserving the traditional spiritual and moral values of our Arab and Islamic civilization."

The Tunisian and Saudi ministers had a direct telephone conversation with the staff of the main ground station in Saudi Arabia.

/12929
CSO: 5500/4611

COLLOQUIUM ON SATELLITE NETWORK HELD IN TUNISIA

Tunis DIALOGUE in French 11 Nov 85 p 20, 21

[Text] Under the distinguished patronage of Tunisian Prime Minister Mohamed Mzali and French Prime Minister Laurent Fabius an International Colloquium on Communications, Imaging Transmission, and Direct Broadcast Satellites, was opened on 10 November by Tunisian Minister of Communications Brahim Khouaja. It was the scene of a broad debate on future developments in this area, particularly in terms of the use of satellite networks. Among those participating in the meeting were Mustapha Masmoudi, president of the Tunisian Communcations Association, and Louis Perrein, president of the Mediterranean Communications Institute.

An important question was considered at the very beginning of the meeting: the Arab satellite, "ARABSAT."

During 1985, two Arab satellites were launched on 7 February and 17 June. These launches marked the entry into operation of the ARABSAT system, a new satellite communications network.

This system has the mission of providing various communications services (telephone, television, video conferences, etc) to the 22 countries of the Arab League, an area of great importance.

ARABSAT 1C, a third satellite, is being kept in reserve on the ground.

This space activity also includes a ground satellite control network equipped with substantial resources and divided between Saudi Arabia and Tunisia.

The ground segment of the system will eventually include 22 large communcations stations forming the basis for fixed service and for many stations of lesser size (at present about 50 percent of the large stations have been provided for). This sector will also be equipped with complex equipment for traffic management.

The system will have substantial capacity. The use of tested technologies for the useful payloads of the satellites will make it possible for each of them to be capable simultaneously of handling 8,000 telephone circuits, seven TV programs, one community-wide TV program, communications services with stations on the C Band with antennas of 11 to 16 meters in diameter, and the distribution of TV programs to a part of the community (C Band) and to the whole community (S Band).

Another characteristic of the system is its reliability. (There are two satellites in operation, having the capability of supporting networks on board, in view of the size of the ground control equipment.)

In conclusion, this system has characteristics giving it broad capabilities in the communications area which should make possible the development of new services and applications for the welfare and progress of the countries using it.

What Technology?

Are the industrialized countries wise enough to prepare a strategy for technology transfer? Are the powerful countries so foolish as to continue to look to their own power in a world whose functioning has been hampered by competing national interests?

The founders of the Mediterranean Communications Institute do not wish merely to think about the stakes involved in the media revolution. They wish to propose solutions so that the rich cultural inheritance of the Mediterranean will not be submerged by the dead hand of uniformity.

The peoples of the Mediterranean, who have given the world almost all of its great philosophies and almost all of the great religions, who have created the great currents of modern thought, have something to contribute to the chorus of voices in the world.

Communications satellites cannot be allowed to remain passive, because they are increasingly the vehicules for the dominant culture. Passivity is the beginning of cultural and therefore of scientific and technological suffocation.

Certainly, the obstacles are numerous. On the northern and southern shores of the Mediterranean we can see the cumulative delays resulting from years of colonialism and fratricidal struggle. The object is to overcome these obstacles and not merely to bypass them.

Already voices are being heard which are calling not only for transfers of technologies but also for a general settlement of the debts owed by the developing countries.

Avoiding Any Form of Cultural Colonization

Therefore, the Arab countries are more concerned than other countries by the implications of direct satellite broadcasting of programs which could be incompatible with their moral and cultural values.

In this context Mohamed Mzali, Tunisian prime minister and minister of the interior, emphasized the dangers flowing from the monopolization of these satellites by certain countries and the imposition of their ideologies and ways of thinking and behaving on other peoples.

In effect, the shortage of available programs and the economics of production make it possible to foresee the danger of real cultural colonialism or at least the development of basically uniform programs by the countries which have the most equipment.

This is what we are seeing at present, both in Canada as well as in Japan.

This change in values can only be combated effectively by developing other information media which are firmly based on daily life and which are suitable to the environment of each society.

That could involve the sharing of resources by related groups in the defense of their cultural inheritances.

Still speaking in this same context, Lardeux explained the French political decision to counter the invasion of cable and media distribution systems by electronic products disseminated by the U. S. A. and Japan throughout the world.

In concrete and creative terms a specialized center would pose the problems of cultural identity and of the necessary conversion of the television art into an industry in a way which would not kill the specific sensitivities of the "consumers."

In this regard Europe, at the initiative of France, intends to develop an area of "cooperation" with the countries of the Third World, which are also victims of a kind of television imperialism which has been made sterile and falsely neutral by the two giants of the media industry.

Therefore, it will be necessary to join our efforts to find adequate solutions for the problems related to the eventual, anarchistic exploitation of satellite broadcasting, which could have a negative impact on the culture of the countries which receive the programs distributed by the satellites in question.

Bringing the Peoples Together

The scientific progress made in the broadcasting area by satellites should be a factor for bringing the peoples together, said Prime Minister Mzali. It should contribute to the enrichment of universal civilization through the identification of complementary points and the cross fertilization of the different national cultures, because the future of humanity, after all, is unity in diversity.

Finally, in achieving this task of civilization, we expect a great deal from the modern means of communications and particularly from information networks and direct television broadcasting by satellites. For technical reasons these broadcasts inevitably will go beyond national borders.

For the exploitation of these new media in the political, economic, and cultural areas, European and Arab cooperation has become an absolute necessity.

Consequently, it is essential to work to develop new and original solutions and to act in such a way that the appreciable advantages offered by the new technologies are not tarnished by their negative aspects and that the great hopes placed in these systems to regain the ground lost in the development area do not simply evaporate.

/9274
CSO: 5500/4614

COMMUNICATION MINISTER ON SATELLITE COMMUNICATION STATION

Kano THE TRIUMPH in English 18 Jan 86 p 16

[Text] THE Minister of Communication, Lieutenant-Colonel Tanko. Ayuba, on Thursday at Lanlate, Oyo State, said that the Federal Government would require between N600 million and N1 billion to set up a satellite communication station for the country.

Lt-Col. Ayuba made this known while speaking to newsmen during an inspection tour of the Satellite Communication Earth Sation at Lanlate.

He said that the amount would only cover the cost of erecting the satellite equipment while an additional amount would be needed to cover manpower, buildings and other services.

On the maintenance of NITEL's communication equipment in various parts of the. country, the minister said that the organisation had enough manpower to cope with the maintenance, adding that the ministry would soon terminate all maintenance agreements with private companies.

Commenting on the fate of NITEL members of staff who were sent on compulsory leavé, Lt-Col. Ayuba said that the ministry's stand would be made known as soon as the committee appointed to look into the issue submitted its report.

/12828
CSO: 5400/40

36

REPLACEMENT OF LANLATE EARTH RECEIVING STATION DISCUSSED

Kaduna NEW NIGERIAN in English 20 Jan 86 pp 1, 3

/Article by Olu Adebayo: "Lanlate Earth Station Aging -- Experts
Call for Replacement"/

/Text/   One of the country's international telecommunications earth
receiving stations, located at Lanlate in Ogun State, is aging and is
due for replacement.

NEW NIGERIAN investigations revealed that the 32-diameter antenna dub-
bed "Lanlate" installed in March 1971 by the General Telephone and
Electronics Company of America is one of the two presently in opera-
tion at the Lanlate complex.

Going by the standard set by the International Satellite Organisation
(INTELSAT) which gave an average 15 year life span to earth station
equipment, the "Lanlate" must be replaced by March this year.

Also said to be due for replacement, according to our sources, is the
terrestrial micro-wave link between the earth station and Lagos which
was installed at about the same period.

Expert telecommunications opinion sought by the NEW NIGERIAN confirmed
that if the two installations were that old, they had to be urgently
replaced before they started jeopardizing the smooth operation of the
country's international telecommunications system.

The expert spoke of performance "degradation" and equipment "misbehaviour"
as some of the noticeable signs of aging which, he said, would have
serious repercussions if urgent action was not taken.

The equipment, we further understood, had to be replaced with up-to-
date technology because production of the old systems had been discon-
tinued and any attempt to procure their parts would be "extremely"
expensive because they had to be produced specifically for Nigeria.

Although efforts to get the official situation report on the receiving
station from NITEL officials have so far failed, it is understood that
the Minister of Communications, Lt Colonel Tanko Ayuba, was briefed on
the issue when he visited the Lanlate complex last week, as part of
his official tour of Ogun State.

Independent experts put the cost of replacing the earth receiving station
and the microwave link tentatively at about 12 million Naira.

The two antennae at the Lanlate complex -- the "Lanlate I" and the
"Lanlate II" link Nigeria with about 18 countries around the world.

The aging "Lanlate I" is hooked to the Indian Ocean satellite and links
Nigeria with France, Hong Kong, Germany, India, Japan, Holland, Australia
and Singapore while the "Lanlate II" installed in 1978, connects the
United Kingdom, United States of America, Italy, Spain, Switzerland,
Canada, Belgium and Austria, through the Atlantic Ocean satellite.

The country's other international earth receiving station is located
at Kujama, Kaduna State.

Meanwhile, the television standard converter that will enable Nigerians
to see live transmission of events on any television system in the world
has been installed at the Lanlate Earth Receiving Station.

The NEW NIGERIAN understood that the system was installed last month
on the directive of the Minister of Communications, Lt Colonel Tanko
Ayuba.

The equipment's installation means that Nigeria can now hook up directly
to any of the international systems including the American NTSC, the
European PAL and the French SECAM.

The non-availability of the equipment was blamed for both the non-trans-
mission of the activities of the last commonwealth conference in Bermuda
to which Nigeria sent a powerful delegation headed by Chief of General
Staff, Commodore Ebitu Ukiwe, and matches of the Coca-Cola/FIFA Junior
World Cup competition in the Soviet Union.

The Director-General of the Nigerian Television Authority (NTA) Mr
Vincent Maduka and the Managing Director of the Nigerian Telecommunica-
tions Limited (NITEL) Mr P. Ochidiuno were invited to the Dodan Barracks
to explain those lapses.

The NEW NIGERIAN learnt however, that the equipment had been lying idle
at the Lanlate earth station since last April even before the two events
took place and no serious reason was adduced for its non-installation.

Colonel Ayuba was said to have inspected the equipment during his
visit to the Lanlate complex early last week as part of a two-day
official visit to his ministry's installation in Ogun State.

He was conducted round the complex and briefed by NITEL's General Manager, Space Communications, Mr Tunde Oyeyipo and the Station Manager, Lanlate, Mr Stephen Akinrolabu.

The minister who had to cut short his trip because of an urgent meeting of the Armed Forces Ruling Council (AFRC) in Lagos, is expected to go back anytime during this week.

He was said during his last visit to have ordered the installation of a better fire fighting equipment and water boreholes at the Lanlate earth receiving station.

/12851
CSO: 5500/44

BRIEFS

BRITISH SHORTWAVE TRANSMITTER--Dar es Salaam--Radio Tanzania, Dar es Salaam, has received a new 20 kw shortwave transmitter which will become operational at the end of next month. The transmitter, which is valued at 3.8 million shillings, was donated by a British firm. It will replace an old one which has been operating for the past 27 years. The chief engineer of Radio Tanzania, Ndugu Ignatius Muhumbira, said today that the new transmitter, which arrived in September last year, had not been assembled because of a delay in the arrival of important parts. He said, however, that some parts had arrived earlier this month. The chief engineer said that the assembly of the new transmitter was part of the plan for the repair of radio equipment. He said Radio Tanzania was negotiating with the Central Bank of Tanzania over the purchase of two 100 kw shortwave transmitters to replace old transmitters which have been in use for the past 20 years. [Text] [Dar es Salaam Domestic Service in Swahili 1000 GMT 13 Jan 86 EA] /6091

CSO: 5500/42

VOA STATION 'PSYCHOLOGICAL BACKUP' FOR CONTRAS

LD042108 Moscow Domestic Service in Russian 0930 GMT 1 Feb 86

[Yuriy Baranov report from Managua]

[Text] According to the Nicaraguan paper BARRICADA, the VOA administration has set up a relay station with a directional antenna, with a capacity of 50 kw, in Costa Rica. Programs will be carried on mediumwave, first in Spanish, then in the language of the Meskito Indians, who inhabit the Atlantic coast of Nicaragua.

Our correspondent Yuriy Baranov reports from Managua: The orientation of the relay station for VOA broadcasts toward the vast area of Nicaragua that is the Atlantic seaboard is no accident. In precisely this region, the bands of Somozist hirelings operate most energetically. It is precisely here that they are striving to establish a social basis for counterrevolution. By deceit, and when this fails, by force, they recruit local people into their ranks, mostly Meskito indians.

They are assisted in this by 76 radio stations, most of them in Honduras and Costa Rica. (Howard Frederick) a lecturer at the U.S. University of Ohio points out in his study The Radio War Against Nicaragua. The intensity of their counterrevolutionary propaganda fluctuates according to the scale of financial aid received from the USIA, whose purview includes the VOA.

The new VOA relay station on foreign territory is designed to play the role of first voice in the chorus of hostile radio stations broadcasting to Nicaragua. Thus its establishment attests to a stepping-up of ideological aggression against revolutionary Nicaragua, as psychological backup for the military aggression being conducted by the Somozist mercenary forces.

/6091
CSO: 5500/1006

FRANCE, SWEDEN SIGN ACCORD ON MARKETING SPOT IMAGERY

Paris AFP SCIENCES in French 17 Oct 85 pp 42-43

[Unattributed report: "Franco-Swedish Accord for Reception and Marketing of Spot Satellite Images"]

[Text] Stockholm--A tripartite agreement among CNES, SPOT-IMAGES and SAT-IMAGES on the reception and marketing of SPOT space-imagery products was signed on 10 October in Stockholm.

It is a follow-on to the intergovernmental agreement signed in 1978, which established the partners in the Franco-Swedish cooperation on the SPOT program: CNES, the operator of the satellite; the Swedish corporation SATIMAGES, created to operate the SPOT image reception station at Esrange (Kiruna) and to distribute the SPOT data in the Nordic countries; and SPOT-IMAGES, a French corporation charged with worldwide commercialization of SPOT data.

The agreement just signed assures the SPOT system the operation of two reception stations situated in Europe (Toulouse and Kiruna) and thus a greater image-reception capacity. The location of the Swedish station at Kiruna, at 68 degrees of north latitude, actually allows reception of SPOT satellite data at practically every one of its orbital revolutions.

The Kiruna station is also equipped with a significant image-preprocessing center, which will allow a proportional improvement in the effectiveness of the products made available to users. This agreement was signed by Mr Jacques-Louis Lions, President of CNES, Mr Gerard Brachet, President of SPOT-IMAGES, and Mr Svante Astermo, President of Satelitbild.

It will be recalled that CNES and SPOT-IMAGES acquired 6 percent and 4 percent respectively of the capital of SAT-IMAGES, by the terms of an agreement signed 17 May 1984.

The SPOT Satellite was to have been launched last 3 October from Kourou by an Ariane 1 rocket; but a launch failure on 13 September slipped this date toward the end of this year at best. SPOT will be the highest-performance remote-sensing satellite presently existing in the world, with an image resolution of 10 to 20 meters.

France would have liked to make the SPOT program, which will include a series of satellites - at least 4 - a broadly international program. In Europe, only Belgium and Sweden are participating, but a number of countries have signed agreements with SPOT-IMAGES to receive images with SPOT stations on their own territory: Canada, Japan, Saudi Arabia, India and Bengla Desh.

In total, SPOT-IMAGES has signed distribution contracts in more than 30 countries. A subsidiary was created in the United States, SPOT IMAGES Corporation of Washington, which will be supplied with images coming from Canadian station.

The French government has already approved the construction of the third and fourth SPOT statellites, with new capabilities, thus assuring continuous service up to the end of the century.

The financial structure of the operation is astute; a **re**gular copyright system has been set up for the images. Thus distributors will pay SPOT-IMAGES $1,000 per photo, most of them electronic, covering a 60 km by 60 km area. The price will decrease in line with the number sold.

SAT-IMAGES will in turn reimburse part of its receipts to CNES to cover, first of all, the operating costs of the satellite control stations, and then as a contribution toward the amortization of part of the program's costs.

13070
C SO: 5500/2534

SIEMENS DEVELOPS SYSTEM FOR OFFICE OF FUTURE

Heidelberg NACHRICHTEN ELEKTRONIK & TELEMATIK in German Oct 85 pp 67-70

[Article by Winfried Waschke and Axel Weise: "Office Communications 85 Project"]

[Text] With the "Office Communications 85" project Siemens has all of the building blocks for a modern office communications system. These building blocks lead to greater efficiency at the workplace, more rapid throughput and more rapid communications. This "office of the future" is intended to help manage the rapid growth taking place in an important area of the business world in an efficient and customer-oriented manner.

The current range of devices and systems for office communications is industry's solution-oriented answer to the multiplicity of tasks and problems faced at work stations within offices today--at Siemens the result of long years of applications research on the office of the future.

But this intense applications research has also taught us about the organizational aspects of office communications. We know that the roots of greater productivity and effectiveness in the office are also based on the reorganization of communications.

A comprehensive communications network linking the work stations is a fundamental requirement for development of the much-discussed productivity reserves within an office, i.e. providing for reduced throughput time, fewer redundant activities, less division of labor, improved access to information. Fig. 1 [Fig. not reproduced] shows the basis for this statement. These data were obtained in special studies of work flow within the office. We know from numerous studies that comparable figures are obtained in areas where the division of labor is on a similar scale.

The Project

The office communications network closes the gap left by data processing in providing assistance within the office. The electronic transfer of all kinds of documents is not only faster and more reliable than the mail, but also the basis for establishment of organized electronic archives--from the work station itself to the central archives. This is the beginning of the age of processing without redundancy--free of superfluous, restrictive divisions of

labor and the millions of manipulations again and again (searching, recomposing, transcribing, checking, etc.) of the same information (text, data, graphics).

The Office Communications 85 project is putting these basic ideas into practical use within the sales organization of Siemens AG. An interregional communications network linking the work station terminals and "office servers" of the 5000 office system product line is being implemented in one department of the communications engineering division.

Fig. 2 shows the 17 locations within the FRG where approximately 400 employees are working in the office systems division. In addition to the Munich headquarters (5 locations there for centralized product-related, sales and organizational tasks, as well as the training center office), the communications network includes 11 subsidiaries (locations for sales promotion, technical consultation, project realization and customer service) and the order processing center in Witten, which is the Siemens logistics center for the disposition and delivery of office communications systems.
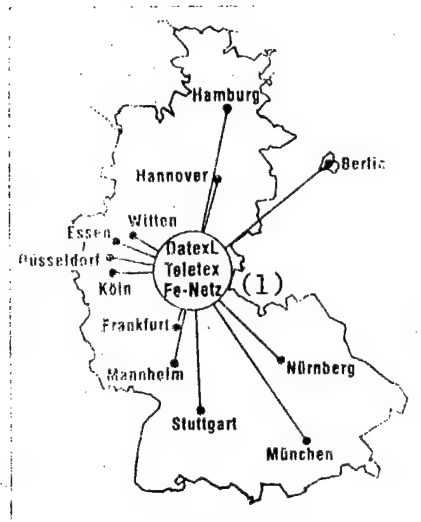
Fig. 2   Siemens Locations in the Communications Network

Key: 1. Telephone network

An office communications network based on a methodically prepared organizational model is being implemented for this nationwide communications link. This network will enable paper-free communication within each location, among the various locations and with fellow businessmen from other companies (who have   telex/teletex connections).

In order to accomplish tasks efficiently, working documents (e.g. text manuals, technical information in an information library, master product data, services and training courses) are centrally processed, continually updated and made available to the individual work stations electronically.

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The System Concept

The system concept is derived from the project objective: function-oriented, well-organized utilization of the performance features of the 5000 office system product line. The result is the scheme shown in Fig. 3 depicting the equipment for each work station and the network layout.
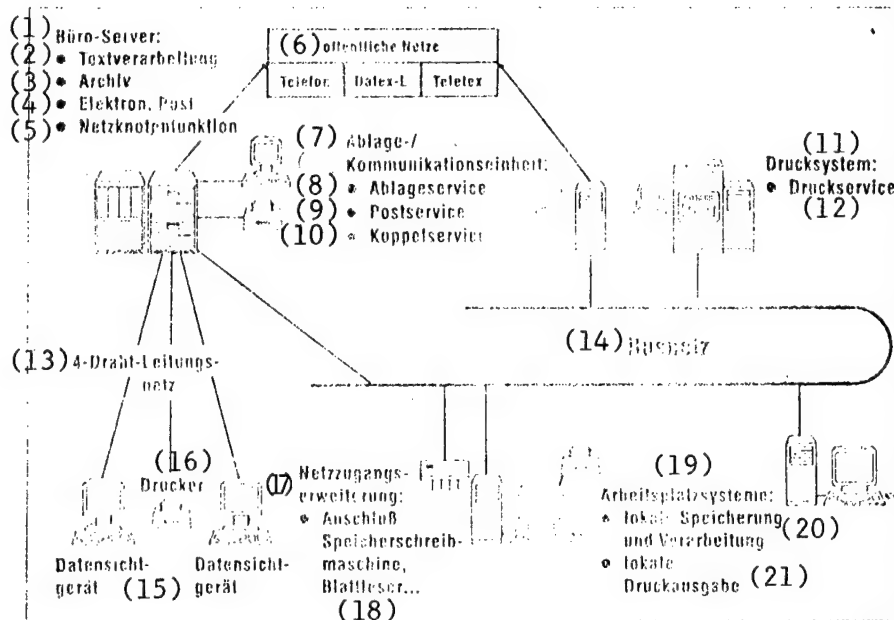

Fig. 3   The Network Within Siemens Locations Using the 5600 and 5800 Office Systems

Key:
1. Office server:
2. ● Text processing
3. ● Archive
4. ● Electronic mail
5. ● Network node function
6. Public networks
7. Filing/communications unit:
8. ● Filing service
9. ● Mail service
10. ● Coupling service
11. Printing system
12. Printing service
13. 4-wire network
14. Bus system
15. Display terminal
16. Printer
17. Network access expansion
18. ● Connection to memory typewriter, facsimile recorder
19. Work station systems:
20. ● Local storage and processing
21. ● Local printer output

The network configuration within one company location is designed to reach all work stations and provide access to public services.

With the in-house network, the communications-equipped work station terminals and "office servers" installed at each location are linked to one another via the four-wire network and a bus system.

The advantage of the /four-wire network/ [in italics], the standard transmission network commonly used primarily for telephone traffic, is that it is present in virtually every office building. Transmission via such a network is point-to-point. The 5600 office system is connected to this type of network.

The Ethernet bus system is not affected by the number or arrangement of the work station terminals and "office servers" connected to it. It is installed in the office building so that terminal equipment can be connected in various configurations according to the guidelines regarding work station equipment. An additional feature of the bus system is its high transmission rate of 10 Mbits per second and up. The 5800 office system is connected to this type of network.

A coupling enables all employees to have access to the specific advantages of both the 5600 and 5800 office systems.

The public services offered by the German Federal Postal Service are used to link the individual company locations to other locations both within and outside the company--in the case of businessmen from other companies via the telex/teletex network and in the case of transfers of documents and information to other Siemens locations via the Datex-L network or telephone lines.

The technical and economic aspects of an installed communications linkup remain invisible to the user. All he needs to know is the access address of the person he wishes to communicate with.

How each work station is equipped depends on the individual requirements of that work station. Each work station has available to it the system performance features necessary for the fulfillment of its specific tasks; the importance of data integrity and data protection are also kept in mind.

Work stations at which integrated text/data processing tasks have priority are assisted by the DSS 6265. This work station terminal permits the use of the high-performance modules of the 5600 office system (Fig. 4).

Work stations at which the preparation of graphics and top-quality document layout are important are assisted by the 5815 work station system (Fig. 5).

Communications Concept and Performance Features

The reorganized communications network between the company locations and the work stations represents an electronic "copy" of conventional mail service-- from mailbox to mailbox--controlled via an electronic directory of the central mailboxes and employees' mailboxes (Fig. 6) [Fig. not reproduced]

Documents which require initial processing by the departmental management or which are to go to the central archives (i.e. circulars, data files, text manuals) come in to the central mailboxes. The person in charge of the central mailbox, usually the departmental secretary, goes through the incoming mail and electronically distributes it either to the proper employee or to the
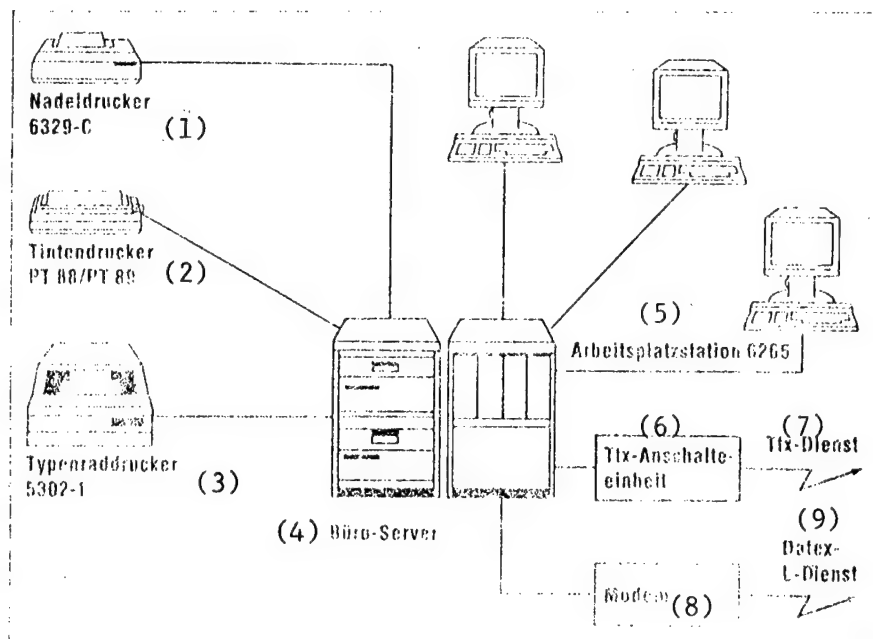
Fig. 4 Configuration of 5600 Office System

Key:
1. 6329-C wireprinter
2. PT 88/PT 89 ink jet printer
3. 5302-1 daisy wheel printer
4. Office server
5. 6265 work station terminal

6. Teletex connecting unit
7. Teletex service
8. Modem
9. Datex-L service

departmental archives for filing. At the same time she prepares an "acknow-ledgement notice" for employees who have access to the central archives.

The opposite direction, e.g. from the employee via the departmental mailbox when the signature of the departmental manager is required, for example, is also possible.

Naturally, direct communication among the employees' mailboxes is also pos-sible. All are accessible to all--as with the telephone.
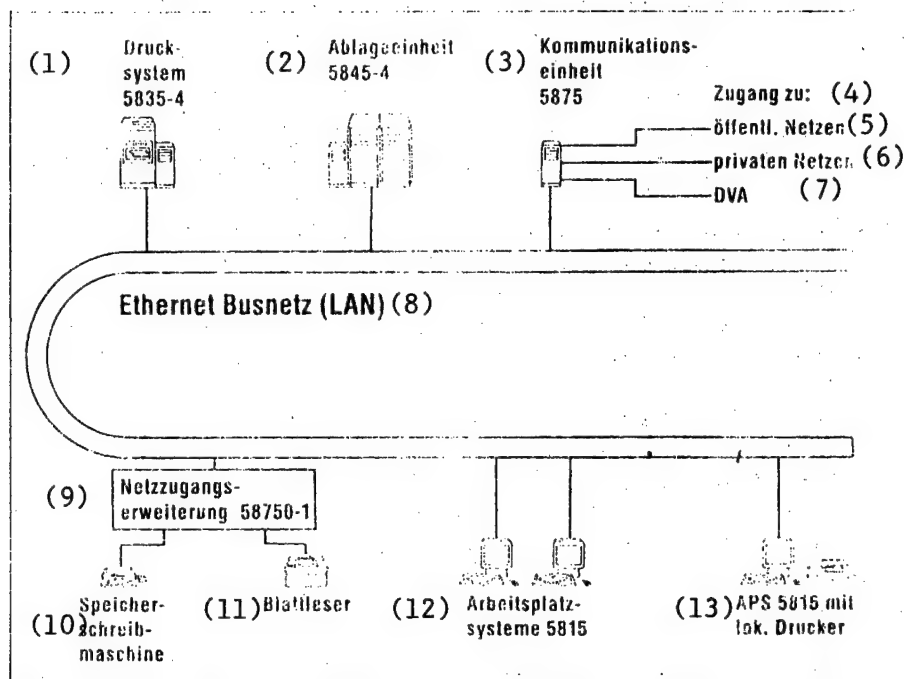
Fig. 5 An Overview of the 5800 Office System

Key:
1. 5835-4 printing system
2. 5845-4 filing unit
3. 5875 communications unit
4. Access to:
5. Public networks
6. Private networks
7. Data processing systems
8. Ethernet bus system (LAN)
9. 58750-1 network access expansion
10. Memory typewriter
11. Facsimile recorder
12. 5815 work station terminals
13. APS 5815 with local printer

The departmental archives contain documents intended for general access (e.g. sales circulars, customer service notices, training materials) and working documents shared by all (e.g. data files, forms, text manuals, graphics libraries).

Data which an individual employee must have currently available at his work station for his own individual tasks is filed in his personal archive.

Fig. 7 shows the most important performance features--after communications and archiving functions--which assist employees in the performance of their jobs.

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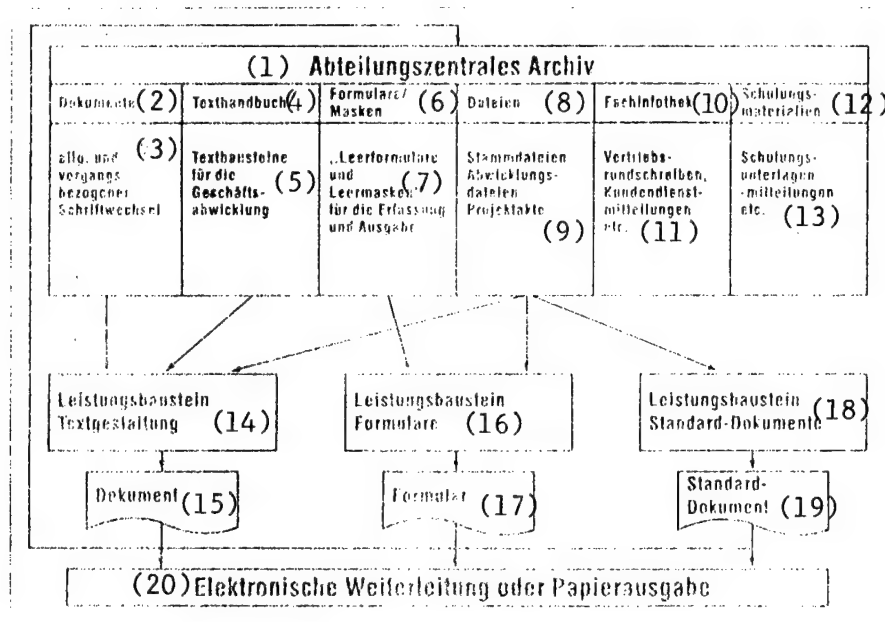
Fig. 7 Performance Features of the "Office Communications 85" Work Station

Key:

1.	Central Departmental Archive	10.	Technical information library
2.	Documents	11.	Sales circulars, customer service notices, etc.
3.	General and process-related correspondence	12.	Training materials
4.	Text manuals	13.	Training documents, notices, etc.
5.	Business related text modules	14.	Performance module, text layout
6.	Forms/masks	15.	Performance module, forms
7.	"Blank forms and blank masks" for entering and outputting data	16.	Performance module, standardized documents
8.	Data files	17.	Document
9.	Master data files, processing data files, project files	18.	Form
		19.	Standardized document
		20.	Electronic transfer or paper printout

These performance features are provided to a greater or lesser extent by the 5600 and 5800 office systems. Determination of the best system for a specific task-oriented area depends on the quality requirements and the amount of processing involved.

Extensive performance features involving text editing and processing, document layout and office graphics are available to the employee for processing individual documents. The employee can create, correct and edit documents, even those subject to higher quality requirements or which require the addition of graphics.

Text modules, data files and master data are supplied for efficiently producing documentation which can be formalized.

Electronically stored forms assist the employee in the preparation of office documents. As with conventional forms, the blanks are filled in with numbers and text. The forms are called up by the employee and automatically filled out with data from one or more data files. The completed form can be further edited in the same way as a unique document. This means, for example, that calculations can be performed. Individual text passages explaining the calculations can be included in the form.

Forms can also be used to maintain uncomplicated data files.

The standardized document processing feature is used when the employee wants to automatically generate frequently needed, rigidly structured documents. The standardized document is generated complete with layout and content. Once initiated by the employee, the document layout runs in the background, i.e. without subsequent input by the employee into the generation process. When completed, the document is filed in the archives and, if not intended for electronic transfer, printed out on paper.

This means, for example, that customer invoices can be generated automatically by accessing the job data and master data archives. Via the menu the employee simply indicates that he wants to prepare the invoice when a particular order is completed.

Emulation software is available additionally for working with host computers. It can be used to permit interactive communications or to call up programs or procedures which then run in the background.

Project Benefits

The "Office Communications 85" project includes all of the building blocks of modern office communications:

- greater efficiency at the workplace thanks to the constant availability of necessary information and to performance features which lighten the work load

- more rapid throughput with greatly reduced processing steps thanks to shared electronic archives, data files and mailboxes

- rapid communications with no waiting or disturbance variables thanks to the communications network connecting the company locations and its access to public services: "the telephone for documents"

This "office of the future" will help Siemens to manage the rapid growth of the office systems field in an efficient and customer-oriented manner. At the same time it is preparing the company organization and the employees for their work in the future world of ISDN communications.

12552
CSO: 5500/2560

DGT CHIEF ON NEW PHONE NUMBERS, MINITEL, TRANSPAC

Paris ZERO UN INFORMATIQUE HEBDO in French 28 Oct 85 pp 18-19

[Interview with Jacques Dondoux, DGT (General Directorate for Telecommunications) director, by Edouard Launet]

[Text] If computer technology were to be compared to the oil industry, Jacques Dondoux would be cast in the role of the Great Shipowner, one hand on the supertanker wheel, the other on the pipeline valve. Intelligent Minitels, smart cards, networks; we were interested in the views held by the director general of Telecommunications on these topics.

[Question] What is the cost of changing the numbers of the telephone system?

[Answer] Very high. At least four billion francs, and more likely about five billion. That's huge. But we must remember that the telecommunication network was worth 230 billion on 31 December 1984. For the past nine years we have spent four billion so that all the intelligent components of switching exchanges could be adapted to eight digit numbers.

[Question] What was most expensive in this operation?

[Answer] The most expensive was certainly the modification of old exchanges. To begin with, some of them could not be modified; they had to be dismantled (notably one or two rotary switching exchanges).

And then, as you know, France had a policy of using Crossbar equipment. These electromechanical exchanges, with their cabled logic, have been difficult to adapt. Nevertheless, one-third of the French switching exchanges are now electronic, and by expanding the network's possibilities as a function of its development, by going from seven to eight digits, we were able to find very simple solutions for at least one-third of the cases.

[Question] PTT has recently ordered 50,000 microcircuit card readers. How will a Minitel owner use this equipment, and what guarantees does he have about the security of transactions carried out through these means?

[Answer] Minitel is currently used for many purposes: telephone information and access to all kinds of information through a multitude of services. But if we look at bank traffic for instance, we can easily become frustrated: I can verify whether my balance is positive and which checks have been paid.

But on the other hand I cannot transfer funds on Sunday afternoon, when I realize that it is time to take care of some household administration, and pay my rent. When I buy by mail, I place my orders with a Minitel; it's very convenient and I don't see why I cannot send a check to my union, or to PTT for my phone, also by using the Minitel.

Transfer of Funds

It's possible of course, to work with keywords (a coded number, an "open sesame" for which the computer prompts the user before giving him access to services or information), as a number of banks do to protect access to information. But to be secure, keywords have to be relatively long.

Another solution has been found with smart cards, in which the information in a random form assures protection that is definitely superior to a "convenient" keyword with six or seven alphanumeric characters.

Smart-card readers cannot be imposed on all users. As you know, the commercial position we have adopted for the past four years has been to give the people the right to choose. If they want our reader, they take it; if they don't want it, they don't take it.

Smart-card readers cost 600 francs. Amortized over four years, this represents 150 francs per year, and with maintenance let's say 200 francs. They must therefore be "sold" at 20-30 francs per month. Every Minitel user is not forced to rent a smart-card reader share, thus separating the reader portion of the system.

[Question] How about transaction security?

[Answer] Security is high, you know, because we generate random numbers which can stump computer experts (an information transmission can be encrypted by an algorithm which among other things, uses the code stored on the smart card). Even then, we still have a problem on the networks with people who own microcomputers and try all possible combinations to access the available information.

This practice is difficult to control. We must therefore have even more random systems; that is the reason for smart cards. At this point I hope that the young generation will be sufficiently inventive so that the armor will not be a flawless.

Microcomputer or Minitel?

[Question] What is the future of the intelligent Minitel?

[Answer] In my opinion, the problems raised by this equipment are very interesting. Two schools are confronting each other here: the first says that Minitel must be the basic instrument, and since our countrymen are really not crazy for technology, it must be simple to operate.

At least 50 percent of the people, who are ostensibly disinterested in technology, do not want to be constantly faced with questions of valves, microcomputers, or anything like that. If we really want people to use Minitel--we are hoping for an 80-90 percent conversion--we must really aim for simplicity.

The second school says that Minitel is not even as functional as the smallest microcomputer. The people then ask: make a less "anemic" Minitel. The question for us is whether we should make an intelligent Minitel, or whether we should make it possible for all microcomputers to be connected to the network. It's a matter of dialectics.

My position is to take the path of connectable microcomputers with French Telecommunications, striving to equip every widely distributed microcomputer with a card for connection to the telephone network. At this point, because many people are concerned about Minitel's intelligence, we have placed an order for 50,000 variable intelligence Minitels (DGT has ordered 50,000 intelligent Minitels, or M20, from Matra; they will be delivered in 1987 and sold around the end of that year; they will also accept extension modules to support standard software such as spreadsheet, text processing, and other programs).

We will see who wins the battle between the intelligent Minitel and the "telecommunicating microcomputer." The users will choose.

In June, Transpac Crashes

[Question] Can we fear another Transpac bottleneck?

[Answer] Last June, more exactly between 15 June and 3 July, we had a bottleneck. But one thing must be understood: it was not due to a lack of hardware, of which we had a sufficient amount; it was because the hardware had never been tested under fire.

Transpac traffic is not conventional traffic; it is a new type of traffic, which ferries rather "rare" alphanumeric information grouped in packets. This type of communication is very different from telephone communication, and we were never able to truly simulate this traffic. Added to this was the fact that in addition to business traffic, which represents 85 percent of the Transpac traffic, 15 percent of the traffic was due to consumer computer communications, to users whose behavior was unknown: would they remain connected for one hour to a message center, or on the contrary, tired of the banter of the message center, or at least of its unlively nature, would they disconnect after two minutes?

We were not able to test the exchanges under load, and thus could not detect one fault--a rather dramatic one at that: when the exchanges were about 85 percent loaded, instead of politely refusing the traffic, which is not terrible, they disconnected everyone, which is much worse.

It was horrible! We were reaching a load of 87-88 percent, and all of a sudden, everyone got zapped. What do normal people do in that case? They politely request access from the host to which they are connected; and our system, faced with all these requests at the same time, was going crazy.

What is more, we have very brilliant engineers who have an American concept of networks rather than a German one. A German type of telecommunication network--which actually worked very well during World War II--is "it either goes through or it's through." You take a direct route, you make the path large enough for the traffic, and if the direct route is full, you tell the users "it's busy, the route is blocked."

German Efficiency

In the American type of system, to which the French are very attached, if the main road is blocked you start with one detour, then another, and yet another one! This has one great advantage: it makes it possible to use all the network's transmission capabilities, when it works as it should. But when it does not work, you have complete disaster, because the bottleneck produced at one point propagates.

In the German system, you try to go through but remain stuck at the entrance. In the French system, you are still stuck at the entrance, and then little by little move to lateral entry points, which then also become saturated; this overload then completely jams the network. We have made modifications which should let us hold on through the second half of the year.

In one year, the professional traffic has doubled. Consumer traffic, which started at a lower value, has tripled or quadrupled in the same time. The amount of hardware was naturally increased; new Transpac switching exchanges were placed in service as planned. At the same time, we simplified the network by deciding not to seek the ultimate path during jams.

Lastly, we examined the software problem; it is after all not normal that at a load of about 85 percent, an additional one percent should crash the system. We looked for the causes which disconnected the exchange. I come from the hardware side; although I am telecommunicator of long standing, my origins lie in computer technology. I have already led software teams, and don't find it comfortable.

We have certainly found one or several very significant faults. The question
is whether these first trees do not hide a forest of other problems. Our
teams say that everything should operate properly at this point, but I do not
assert that the network will not become congested.

[Question] Finally, now, with these modifications, does Transpac go through
or does it crash?

[Answer] In principle ....

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CSO: 5500/2552

THOMSON DEVELOPS VOICE DATA TERMINAL

Paris INDUSTRIES ET TECHNIQUES in French 1 Nov 85 pp 83-84

[Article by Franck Barnu: "Three Office Automation Machines in One"]

[Text] This machine is the last word in integrated communications. Formerly, the desktop telephone, the Minitel [screen and keyboard attachment for telephone] and the computer terminal were three separate devices. It was inevitable that they should one day become integrated. The dual-mode Minitel was already capable of working in the videotex mode and in the ACSII [American Standard Code for Information Interchange] mode for its connection to computers.

Thomson now offers this same type of product but with the addition of a telephonic capability. This hybrid unit is what the Americans call a voice-and-data terminal (VDT). Hence its Thomson designation of VDT 3500.

This VDT is equipped with two telephone lines and ties into the telephone system like an ordinary telephone. It can be used either to make two two-way telephone calls simultaneously or to consult and process data while making a telephone call at the same time. Because it can be linked to a computer and to a videotex information retrieval service ("serveur") as well, this integrated work station thus performs all the functions of a message switching center (with a private or public information retrieval service), a terminal for consultation of a data base, a terminal for ready access to the company's computer, and, to be sure, a top-line telephone. This "communicating" instrument is designed, of course, for incorporation in a network architecture consisting of a large number of terminals of the same type. It is not isolated like a microcomputer, for example.

The VDT 3500's telephone has all the functional capabilities of sophisticated telephones. It is a full duplex-working, real hands-free phone, in other words, the handset need not be held when making a call. Its calling features include: an alphanumeric push-button keypad with 40 numbers, enabling calls to be placed to persons by name; visual display of names and numbers called plus the elapsed time of each call; and composite dialing (DC/FV) to make maximum use of the capabilities of electronic exchanges.

The terminal looks like a computer miniterminal. It has a real Azerty keyboard, a high definition 40- or 80-column screen, 16 programmable function keys, and two programmable RS232 jacks for direct connection to computer and peripherals. The terminal is also equipped with an automatic message-receiving unit--electronic mailbox--and many other automatic features simplifying its use. The text editor includes a simplified processing module (insert, delete, tabulate, rearrange, etc.) which is used for the on-line composition of a text and then for its transmission in the block mode.

The VDT 3500 has eight auto log-on procedures for automatic connection to any type of data base or computerized information retrieval service. It thus provides direct access to the desired line or page thereby considerably simplifying its use by novices.

For its communications tasks, the VDT is equipped with two built-in modems. Both operate in the full duplex mode, one at 300 bauds in both directions, the other at 75/1,200 bauds. In addition to the videotex mode for accessing information retrieval services of that type, the VDT 3500 is equipped with ANSI [American National Standards Institute] protocols X 3-15, X 3-16, X 3-4, and X 3-64. In this way, the VDT has direct access to most computers for simple consultation of their display screens. On the other hand, if more extensive functional capabilities of dialoguing (movement of a cursor, masks, etc.) with the computer are desired, then a protocol converter will have to be added to the basic VDT.

According to Thomson officials, the VDT 3500, priced at 13,500 francs (11,800 francs per 10 units), "very quickly pays for itself because it is timesaving and its many automated devices reduce communication costs.
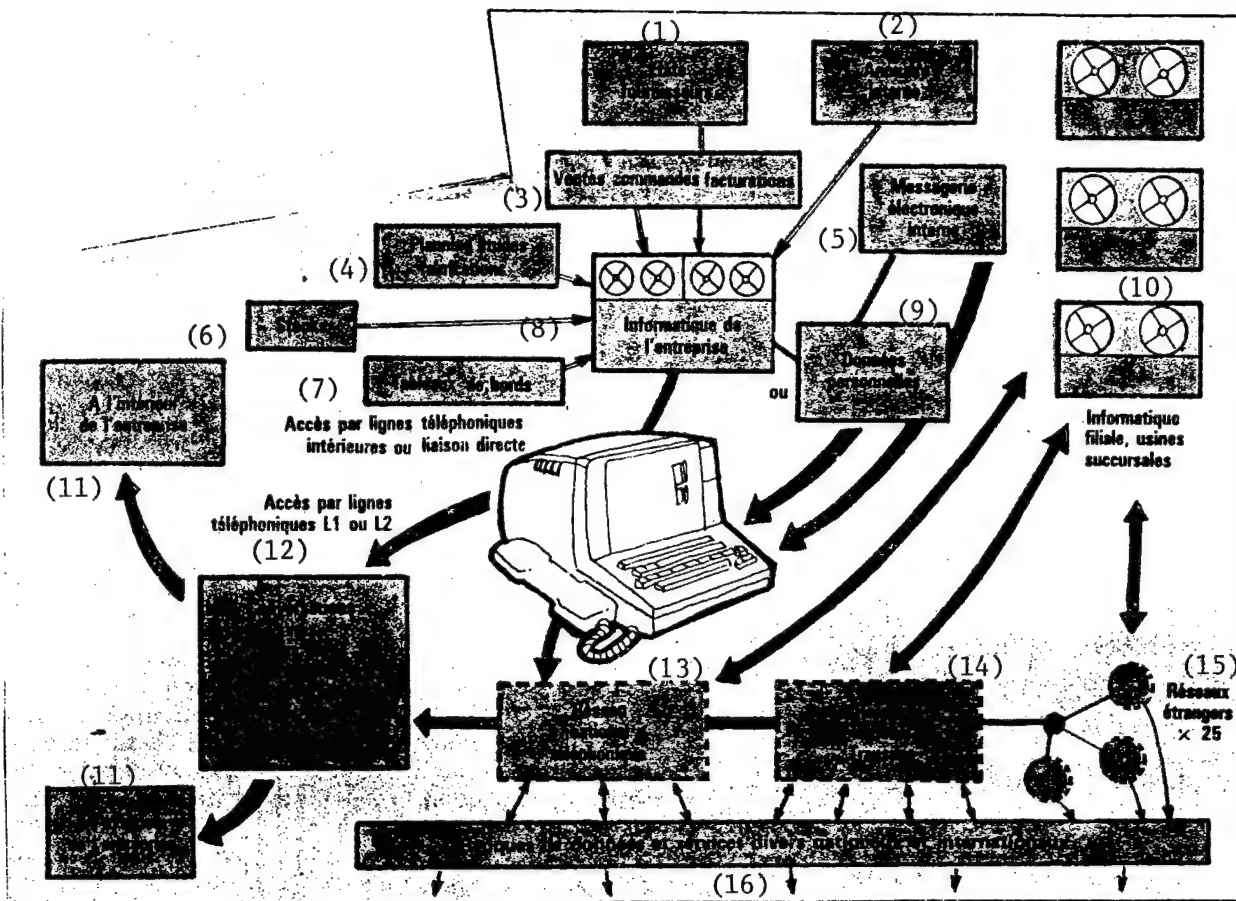
Eight auto long-on procedures for automatic connection to any type of data base or computerized information retrieval service

Key:

1. Suppliers' accounts
2. In-house telephone directory
3. Sales, orders, invoices
4. Planning, studies, production
5. In-house electronic message center
6. Inventory
7. Interactive consoles. Access by in-house phone lines or direct communications link
8. Company's central computer, main frame
9. Personnel data
10. Central computers, main frames of subsidiaries, plants, branches
11. Inside the company
12. Access by L1 or L2 phone lines. Free-hands phone calls with capability of making two calls simultaneously
13. National telephone system
14. National Transpac [public data-transmission network]
15. Foreign networks X 25
16. National and international data bases and various services.

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BRIEFS

NATIONAL FRONT PARTY RADIO STATION--The National Front will soon have its own radio station. It will be called Caroline FM after one of the daughters of the party leader, Jean-Marie Le Pen. It will broadcast to the Paris region for 24 hours a day from Asnieres near Paris from 1 February using a 10 kw transmitter. It will broadcast programs on the arts, history, practical information and music. There will be a news program from 0700 to 0830 [0600-073 GMT] and at 1300 and 1900 [1200 and 1800 GMT] and a press review. [Summary] [Paris Domestic Service in French 1500 GMT 22 Jan 86 LD] /9274

CSO: 5500/2571

BRIEFS

AERITALIA, TELESPAZIO IN REMOTE SENSING--Aeritalia and Telespazio of the Gruppo IRI--the former of the Finmeccanica division and the latter of the STET division--have founded the TELAER company to coordinate their respective activities in the development, sales, and promotion of advanced air remote sensing services and products. Aeritalia has acquired great skill with regard to aircraft, avionics, flight operations, and integration of onboard systems and equipment while Telespazio, which boasts more than 20 years experience in space telecommunications, has been working for years in earth resource remote sensing and satellite-transmitted data processing. Remote sensing techniques can be used in many different fields, from the detection and management of earth resources to the analysis and planning of land use, and from civil defense to harvest forecasts, all by means of aerial and satellite remote sensing. In addition to domestic applications, the TELAER company can make concrete contributions to the aid programs for African countries financed by the Department for Development Cooperation of the Italian Foreign Ministry. [Text] [Chiavari RIVISTA ITALIANA DIFESA in Italian No 1, Jan 86 p 7] /8309

CSO: 5500/2569-M

PHILIPS' GLASS-FIBER BASED LAN FOR INTERNAL COMMUNICATION

Frankfurt/Main FRANKFURTER ZEITUNG/BLICK DURCH DIE WIRTSCHAFT in German 11 Dec 85 p 5

[Unattributed report: "Philips Develops Local Glass-Fiber Network for Heavy Flow of Information. Local Loop Contains Sockets for Fiber-Optic Cable. New Type of Optical Relay"]

Frankfurt, (RE)--An experimental internal glass-fiber based communications network has recently been installed at the Geldrop project center of the Philips company. The "Philips Integrated Local Area Network" or PHILAN, is primarily intended for investigating the problems of these types of systems. Philips is using optical waveguide cable largely because local networks in the future will have to transmit enormous amounts of data due to the increasing number of devices being attached to them and to the variety of tasks they must perform. According to Philips, conventional telephone lines will not be able to handle these large amounts of data. Included by Philips in the data transmission tasks of the future are, for example, communications within text processing systems and electronic archives, for administrative purposes, for automatic measurements, the preparation of X-rays by means of data transmission, and finally, the control of automatic manufacturing processes.

Philips has determined that in approximately 70 percent of all cases the information is transmitted over short distances, e.g. within an office building, laboratory, hospital or factory. An integrated in-house telecommunications network is the best solution for such applications. Philips has chosen a loop structure in designing its PHILAN network. Each subscriber has his own tap into the network from which he can send information to other subscribers along the local loop and also receive messages intended for him. A special optical plug and socket have been developed for connection into the local loop.

Each device to be connected to the loop is equipped with a circuit which first stores the signals to be transmitted, after digitizing them if necessary, and then releases them into the loop at the correct time. Transmission is synchronous with the clock frequency of 20.48 megahertz supplied by the central control unit. Philips reports that this same circuit simultaneously serves as a regenerative amplifier for all of the signals being transmitted around the loop, thus ensuring adequate signal power regardless of the number of devices and the distances between them. An optical relay is installed behind every

socket (see photo) [photo not reproduced]; this ensures that the local loop is not disrupted when a plug is pulled or when a device is turned off. The relay was also developed by Philips.

Philips uses time division multiplexing in PHILAN in order to take optimum advantage of the entire bandwidth of the glass-fiber loop and to enable the simultaneous transmission of the very different kinds of information provided by a large number of subscribers. The continuous bit stream in the loop is separated into 125-microsecond frames each containing 320 bytes (of 8 bits each). A certain number of bytes in each frame is reserved for messages concerning the internal organization of the network. Of the remaining bytes, one or more within one "time slot" can be reserved for transmitting the information packet. If necessary, an additional time slot located at the same place in the following frame can be used. This process can be repeated until all of the stacked-up information has been transmitted. Therefore, numerous data streams of varying widths, which can also be viewed as a like number of parallel communications channels, are running in parallel. The narrowest channel (one byte per frame) has a capacity of 64 kbits per second. This corresponds to the capacity of a digital telephone channel using pulse code modulation.

Philips goes on to say that in a local loop network like PHILAN steps must be taken so that trouble at a single location does not cause the entire network to collapse. There are two ways to proceed: A single, poorly functioning device connected to the ring can be short-circuited and a part of the ring can be short-circuited. From the switching center an attempt can then be made to automatically eliminate the fault. The transmission of large amounts of data to non-functional addresses is also blocked so that transfer capacity is not reserved unnecessarily. An additional reliability feature involves notification to the sender that the message has been disrupted. The appropriate part of the message can then be retransmitted, says Philips.

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